Section One

Volume XXI Number 2

MAR 9 1960

MEDICAL LIBRARY
HISTORICAL BUILDING
DES MOINES, IOWA

DISEASES OF THE NERVOUS SYSTEM

A Practical Journal on Psychiatry and Neurology

FEBRUARY
1960

(CONTENTS ON PAGE 62)

Published monthly by PHYSICIANS POSTGRADUATE PRESS, 277 Broadway, New York 7, New York
Entered as second-class matter at the Post Office at New York, N. Y.

LIFT THE DEPRESSION

MEDICAL LIBRARY
HISTORICAL BUILDING
DES MOINES, IOWA

Lift the depression with Marplan. Therapeutically, Marplan is a new, more active amine oxidase regulator. Clinically, it is safer. Medically, it represents a major breakthrough in the chemotherapy of depression. Marplan has been evaluated by some 300 investigators who reported its use in more than 4000 patients. Results have been impressive—frequently dramatic, and side effects have been markedly fewer and less severe. Indications range from moderate to severe psychiatric disorders with associated symptoms of depression, withdrawal or regression. Marplan is also valuable as an adjunct in psychotherapy to facilitate the patient's responsiveness. *Complete literature* giving dosage, side effects and precautions is available upon request and should be consulted before prescribing.

Supplied: 10-mg tablets in bottles of 100 and 1000.

Bibliography: **1.** H. F. Darling, W. Kruse, G. F. Hess and M. G. Hoermann, *Dis. Nerv. System, 20*:269, 1959. **2.** W. B. Abrams, A. Bernstein, V. D. Mattia, Jr., R. J. Floody and L. O. Randall, Scientific Exhibit, American Medical Association Meeting, Atlantic City, N. J., June 8-12, 1959. **3.** Reports on file in the Department of Pharmacology, Roche Laboratories. **4.** Clinical reports on file, Roche Laboratories. **5.** L. O. Randall and R. E. Bagdon, *Dis. Nerv. System, 19*:539, 1958. **6.** W. Hollander and R. W. Wilkinson, in J. H. Moyer, Ed., *Hypertension,* Philadelphia, W. B. Saunders Co., 1959, p. 399. **7.** R. W. Oblath, paper read at American Therapeutic Society, 60th Annual Meeting, Atlantic City, N. J., June 6, 1959. **8.** I. Kimbell, paper read at Cooperative Chemotherapy Studies in Psychiatry, 4th Annual Research Conference, Memphis, Tenn., May 20-22, 1959. **9.** L. Alexander and S. R. Lipsett, *Dis. Nerv. System, 20*(Suppl.):26, 1959. **10.** A. L. Scherbel and J. W. Harrison, *Ann. New York Acad. Sc., 80*:(3), 820, Sept. 17, 1959. **11.** S. L. Cole, paper read at American Therapeutic Society, 60th Annual Meeting, Atlantic City, N. J., June 6, 1959. **12.** L. O. Randall and R. E. Bagdon, Second Marsilid Symposium, Chicago, Ill., May 8, 1958. **13.** O. Resnick, *Ann. New York Acad. Sc., 80*:(3), 726, Sept. 17, 1959. **14.** G. Zbinden and A. Studer, *ibid.,* p. 873. **15.** T. R. Robie, *Dis. Nerv. System, 20*:182, 1959.

MARPLAN T.M.—1-benzyl-2-(5-methyl-3-isoxazolylcarbonyl)hydrazine ROCHE®

Marplan

achieves a happy balance of potency/safety

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc. Nutley 10, N. J.

Today she is a babysitter—with her own grandchildren. Yet even a generation before she might never have known the joys of marriage and family. Here is a story shared by thousands who lead active lives today because of modern anticonvulsant therapy. Rarely has the progress of medicine touched so many lives with such drama and humanity. Presented here are five distinguished anticonvulsants. They can help you give the most precious of all gifts: a normal life.

Anticonvulsants by Abbott

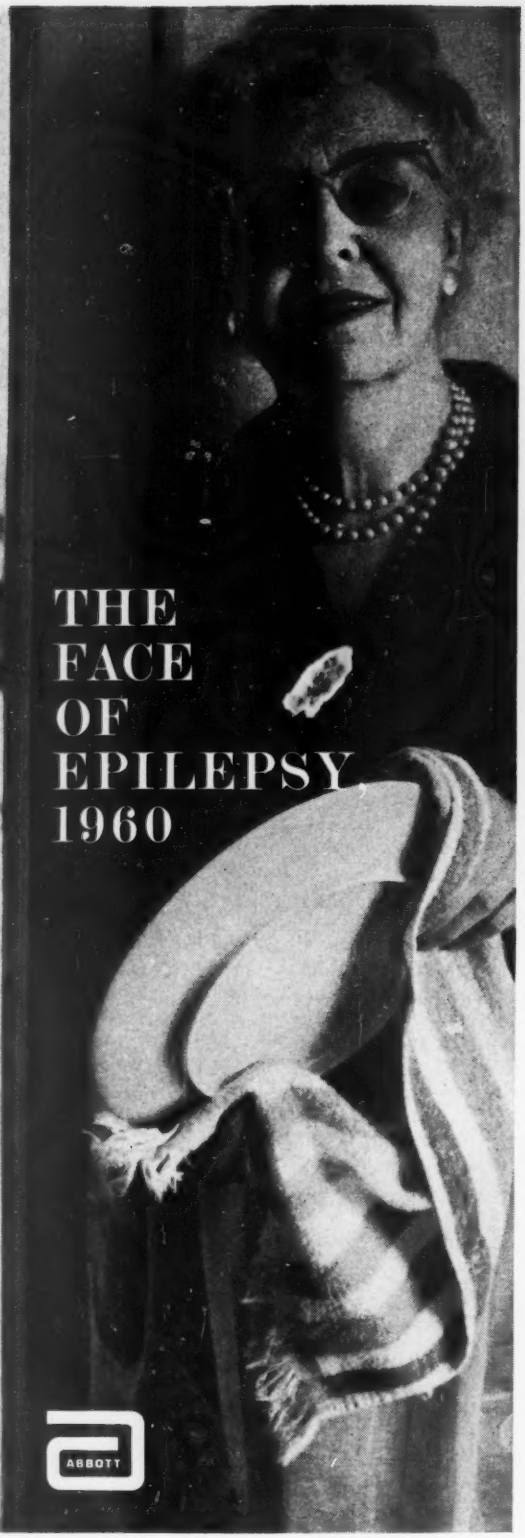
PEGANONE® (*Ethotoin, Abbott*)—A hydantoin of exceptionally low toxicity. Indicated for *grand mal* and psychomotor seizures.

PHENURONE® (*Phenacemide, Abbott*)—Often effective when other agents fail. For *grand mal, petit mal,* psychomotor and mixed seizures.

GEMONIL® (*Metharbital, Abbott*)—Relatively non-toxic. For *grand mal, petit mal,* myoclonic and mixed seizures symptomatic of organic brain damage.

TRIDIONE® (*Trimethadione, Abbott*)
PARADIONE® (*Paramethadione, Abbott*)—Homologous agents. Afford symptomatic control of *petit mal,* myoclonic and akinetic seizures.

061197



For the modern treatment of depression

NIAMID® *a specific for depression*

brand of nialamide

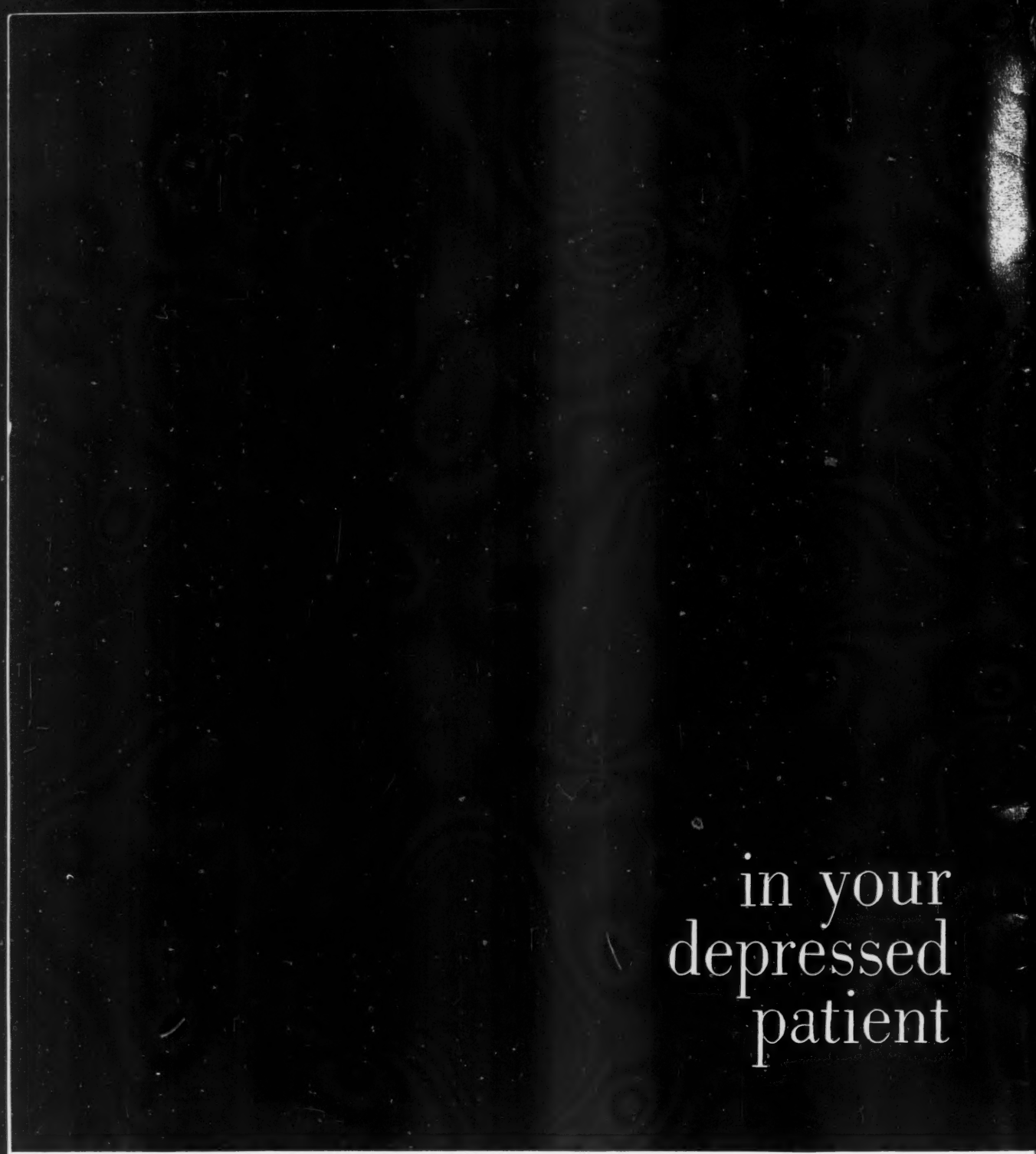
When NIAMID is used as an adjunct to psychiatric procedures, patients become more accessible and more manageable.

- Clinically effective in a broad range of depressive syndromes.
- Frequently effective in regressed patients in whom other therapy has failed.
- Favorable behavioral changes reduce the need for electroshock therapy.
- A high degree of safety already proved in several thousand patients — NIAMID has not been reported to cause jaundice, agranulocytosis, Parkinson-like extrapyramidal symptoms or visual disturbances, and hypotensive effects have rarely been noted.
- Side effects are infrequent and mild, and often lessened or eliminated by a reduction in dosage; NIAMID acts slowly, without rapid jarring of physical or mental processes.

Already clinically proved in several thousand patients—

NIAMID is available as 25 mg. and 100 mg. tablets; complete references, literature and additional professional information may be obtained from the Medical Department, Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.

Science for the world's well-being™



remove the depression with new *a true antidepressant* Nardil™

brand of phenelzine dihydrogen sulfate

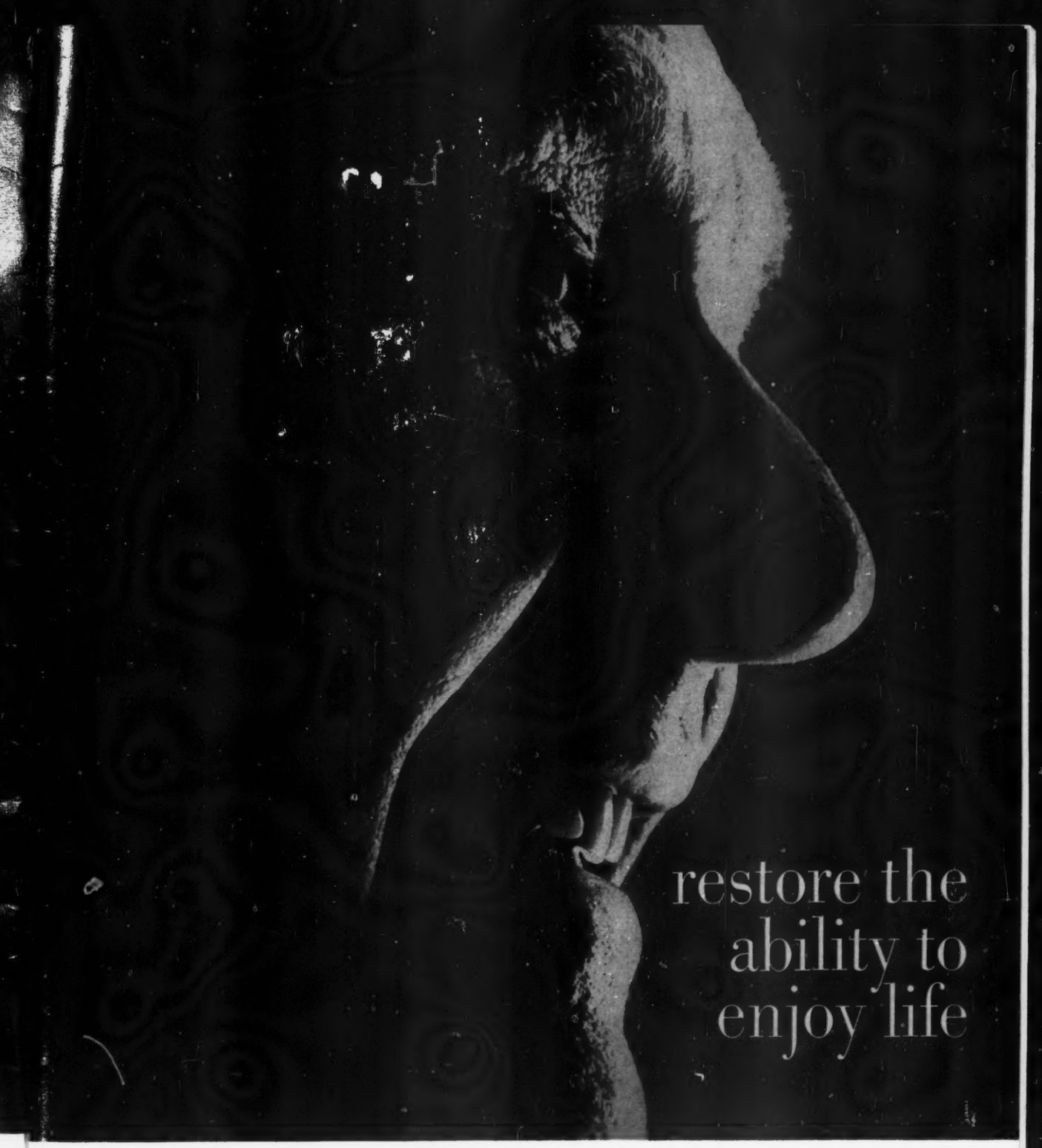
rapidly effective—antidepressant response often within a few days; complete remission usually within 2 to 6 weeks, in 4 out of 5 patients.[1-10]

low toxicity—no significant reports of toxicity to liver, blood or kidneys.[1-10]

corrective—helps remove the depression, rather than merely masking the symptoms... restores the mild-to-deeply depressed patient without institutionalization and without recourse to ECT in most cases.[1-10]

simple dosage—1 tablet 3 times a day.

NA PS01



INDICATIONS: Mild to severe depressions, depressions associated with chronic diseases such as angina pectoris and rheumatoid arthritis. Improves the depressed phase of affective (manic-depressive) psychosis, and relieves the depression of catatonic schizophrenics, although not affecting the psychosis *per se*. SIDE EFFECTS: Occasional postural hypotension and infrequent nausea, ankle edema, delayed micturition or constipation are managed by appropriate adjunctive therapy, or dosage reduction. DOSAGE: One tablet three times a day. After remission, reduce to a maintenance level of 1 or 2 tablets a day. SUPPLIED: Orange-coated tablets, each containing 15 mg. of phenylethylhydrazine present as the dihydrogen sulfate. Bottles of 100. CAUTION: Nardil should be withheld or used with extreme caution where the patient has a history of liver disease or liver damage is present. Hypotensive patients should be under close medical supervision.

REFERENCES: **1.** Sainz, A.: *Ann. New York Acad. Sc. 80*:780, Art. 3 (Sept. 17) 1959. **2.** Thal, N.: *Dis. Nerv. System 20*:197 (May, Pt. 1) 1959. **3.** Saunders, J. C., Kline, N. S., *et al.*: *Am. J. Psychiat. 116*:71, 1959. **4.** Arnow, L. E.: *Clinical Med. 6*:1573, 1959. **5.** Dickel, H. A., *et al.*: *Clinical Med. 6*:1579, 1959. **6.** Dunlop, E.: *Rhode Island M. J. 42*:656, 1959. **7.** Sainz, A.: *Dis. Nerv. System 20*:537, 1959. **8.** Sarwer-Foner, G. J., *et al.*: *Canad. M.A.J.* (in press) 1959. **9.** Hobbs, L. E: *West Virginia M. J.* (in press) 1959. **10.** Dunlop, E.: *Dis. Nerv. System* (in press) 1959.

WARNER
CHILCOTT
MORRIS PLAINS, N.J.

Volume XXI FEBRUARY 1960 Number 2

DISEASES *of the* Nervous System

Contents

MARITAL DISHARMONY: CONCURRENT ANALYSIS OF HUSBAND AND WIFE 73
Bernard L. Greene

TREATMENT OF DRUG-INDUCED EXTRAPYRAMIDAL SYMPTOMS 79
Walter Kruse

RELIABILITY OF CLINICAL JUDGMENTS OF IMPROVEMENT 81
Robert E. Peck

FLUPHENAZINE IN THE TREATMENT OF MENTALLY RETARDED CHILDREN WITH BEHAVIOR DISORDERS 82
Gerald D. LaVeck, Felix de la Cruz and Eleanor Simundson

CLINICAL EVALUATION OF A NEW PHENOTHIAZINE IN CHRONIC PSYCHIATRIC PATIENTS 86
Lloyd K. Sines and John S. Hamlon

SERPASIL TREATMENT OF ADOLESCENTS WITH BEHAVIOR DISORDERS 91
Conrad M. Ayres

EVALUATION OF HYDROXYZINE PRIOR TO ELECTROSHOCK THERAPY 96
Hal W. Greyer

THE CURRENT ROLE OF THE PRIVATE PSYCHIATRIC HOSPITAL 99
G. Wilse Robinson

A PANEL ON NEUROSIS FOLLOWING A TRAUMA

INTRODUCTION 103
Gene L. Usdin

REVIEW OF STATISTICAL STUDIES ON NEUROSES FOLLOWING TRAUMA 104
Jay T. Shurley

THE DYNAMICS OF NEUROSIS FOLLOWING TRAUMA 106
Philip Q. Roche

EMOTIONAL DISTURBANCE IN PERSONAL INJURY CASES 108
Clarence Morris

CONFLICTING TESTIMONY ABOUT POST-TRAUMATIC NEUROSIS 111
Henry A. Davidson

BOOK REVIEW 113

EDITOR
Titus H. Harris, M.D. 112 North Boulevard, Galveston, Texas

MANAGING EDITOR
George Bisgeir, B.S., LL.B. New York, New York

ASSOCIATE EDITORS

A. F. Bennett, M.D.---Berkeley, California
Francis J. Braceland, M.D.---Hartford, Conn.
Franklin G. Ebaugh, M.D.---Denver, Colorado
Milton H. Erickson, M.D.---Phoenix, Arizona
Hamilton Ford, M.D.---Galveston, Texas
Walter Freeman, M.D.---Los Altos, California
A. Hauser, M.D.---Houston, Texas
Louis J. Karnosh, M.D.---Cleveland, Ohio
Frank H. Luton, M.D.---Nashville, Tennessee
Wm. Malamud, M.D.---Boston, Mass.
Karl A. Menninger, M.D.---Topeka, Kansas
Hans H. Reese, M.D.---Madison, Wisconsin
Lewis J. Siegal, M.D.---New York, New York
Harry C. Solomon, M.D.---Boston, Mass.
S. Bernard Wortis, M.D.---New York, N. Y.

YEARLY SUBSCRIPTION $10.00
Foreign Subscription $11.50

Cogentin.

METHANESULFONATE (Benztropine Methanesulfonate)

in all forms of parkinsonism

• a single bedtime dose permits restful sleep... • prevents morning rigidity... • "is often sufficient to control symptoms for 24 hours"[2]

COGENTIN "will counteract rigidity, contractures, frozen states and muscle cramps better than any current preparation"[3] without drowsiness or fogginess,[4] and even control major tremors unrelieved by other medications.[1] COGENTIN usually permits continuation of full-strength tranquilizer therapy if parkinsonian symptoms develop. And COGENTIN has not shown cumulative toxicity. No serious reactions have been reported even after treatment lasting as long as four years.[5]

References: **1.** Doshay, L. J.; Constable, K., and Zier, A.: Neurology **3**:360, 1953. **2.** A.M.A. Council on Drugs: New and Nonofficial Drugs, Philadelphia, J. B. Lippincott, p. 242, 1958. **3.** Brock, S., Mod.: Bull. New York Acad. Med. **32**:202, 1956. **4.** Doshay, L. J.: Parkinsonism and Its Treatment, Philadelphia, J. B. Lippincott, pp. 87-88, 1954. **5.** Doshay, L. J.: J.A.M.A. **162**:1031, 1956.

Dosage and Administration: Recommended dosage is one-half to one tablet two or three times a day. If higher doses are required, the patient should be closely observed and dosage adjusted as indicated. A decrease in dosage is rarely necessary. Additional information on COGENTIN is available to physicians on request.

Supplied: As a 2 mg. quarterscored tablet in bottles of 100 and 1000.

COGENTIN is a trademark of Merck & Co., Inc.

Merck Sharp & Dohme DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

"without it I can do nothing" [1]

Tofrānil®

brand of imipramine HCl

in depression

lights the road to recovery in 80 per cent of cases

In the treatment of depression Tofrānil has established the remarkable record of producing remission or improvement in approximately 80 per cent of cases.[1-7]

Tofrānil is well tolerated in usage—is adaptable to either office or hospital practice—is administrable by either oral or intramuscular routes.

Tofrānil . . . **a potent thymoleptic . . . not a MAO inhibitor. Does** act effectively in *all* types of depression regardless of severity or chronicity.

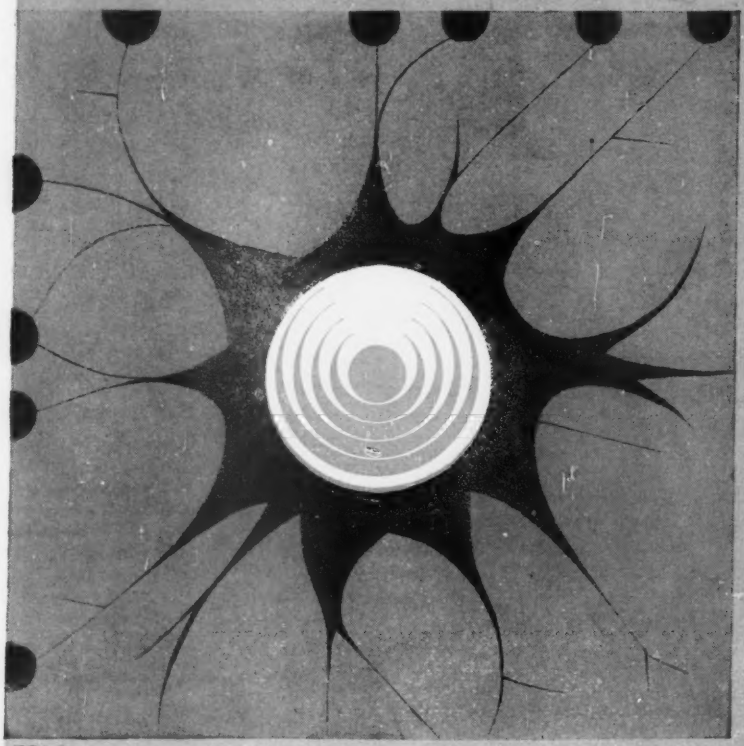
Does not inhibit monoamine oxidase in brain or liver; produce CNS stimulation; or potentiate other drugs such as barbiturates and alcohol.

Detailed Literature Available on Request.

Tofrānil® (brand of imipramine HCl), tablets of 25 mg., bottles of 100. Ampuls for intramuscular administration only, each containing 25 mg. in 2 cc. of solution, cartons of 10 and 50.

References: 1. Ayd, F. J., Jr.: Bull. School Med., Univ. Maryland *44*:29, 1959. 2. Azima, H., and Vispo, R. H.: A.M.A. Arch. Neurol. & Psychiat. *81*:658, 1959. 3. Lehmann, H. E.; Cahn, C. H., and de Verteuil, R. L.: Canad. Psychiat. A. J. *3*:155, 1958. 4. Mann, A. M., and MacPherson, A. S.: Canad. Psychiat. A. J. *4*:38, 1959. 5. Sloane, R. B.; Habib, A., and Batt, U. E.: Canad. M.A.J. *80*:540, 1959. 6. Straker, M.: Canad. M.A.J. *80*:546, 1959. 7. Strauss, H.: New York J. Med. *59*:2906, 1959.

Geigy, Ardsley, New York



TO4-60

Geigy

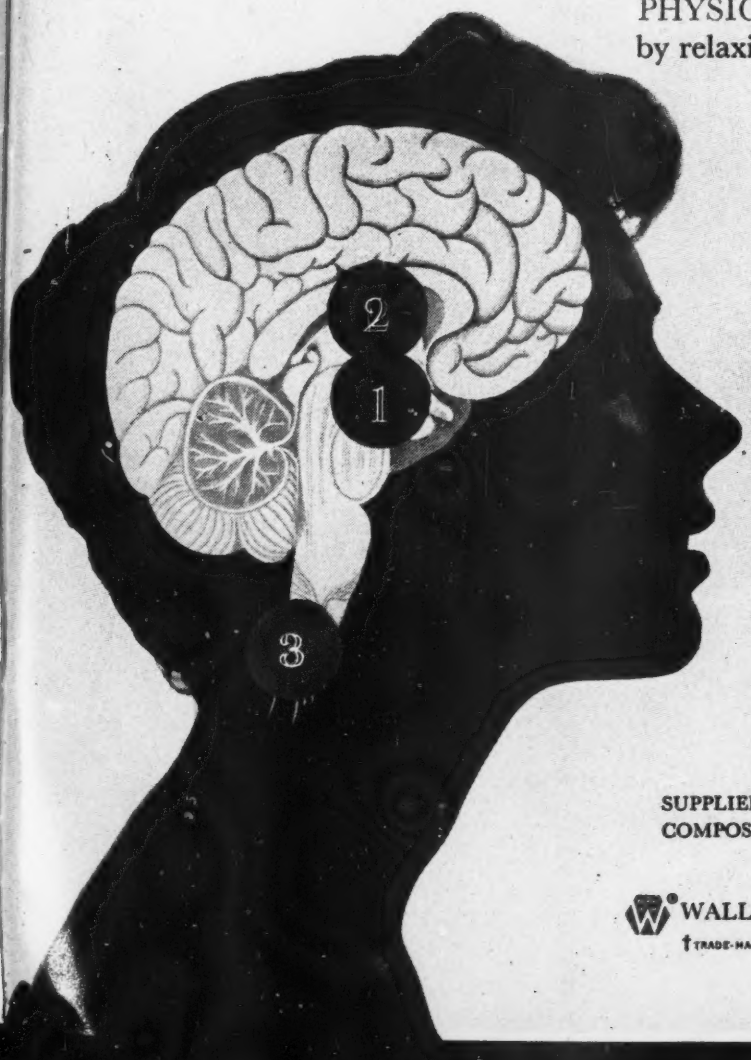
COMPREHENSIVE, THREE-LEVEL TREATMENT OF DEPRESSION

AND ASSOCIATED ANXIETY AND PHYSICAL TENSION

RELIEVES DEPRESSION
including symptoms such as crying, lethargy, loss of appetite, insomnia

RELIEVES ASSOCIATED ANXIETY
with no risk of drug-induced depression

RELIEVES ASSOCIATED PHYSICAL TENSION
by relaxing skeletal muscle



1
hypothalamus

2
thalamus and limbic system

3
spinal cord

▲Deprol▲†

benactyzine + meprobamate

- confirmed efficacy
- documented safety

SUPPLIED: Bottles of 50 light-pink, scored tablets
COMPOSITION: Each tablet contains 1 mg. benactyzine HCl and 400 mg. meprobamate

WALLACE LABORATORIES • *New Brunswick, N. J.*

†TRADE-MARK

09-9399

Stelazine®

brand of trifluoperazine

to help you reach the chronic psychotic

Because of its clinically demonstrated effectiveness in the treatment of chronic psychotics, 'Stelazine' therapy should be tried for such patients, no matter how discouraging the results of previous therapies may have been.

an awakening effect

Allen[1] reports that 'Stelazine' had an awakening effect on chronic patients "who had previously been lacking ambition, initiative, or interest in their surroundings."

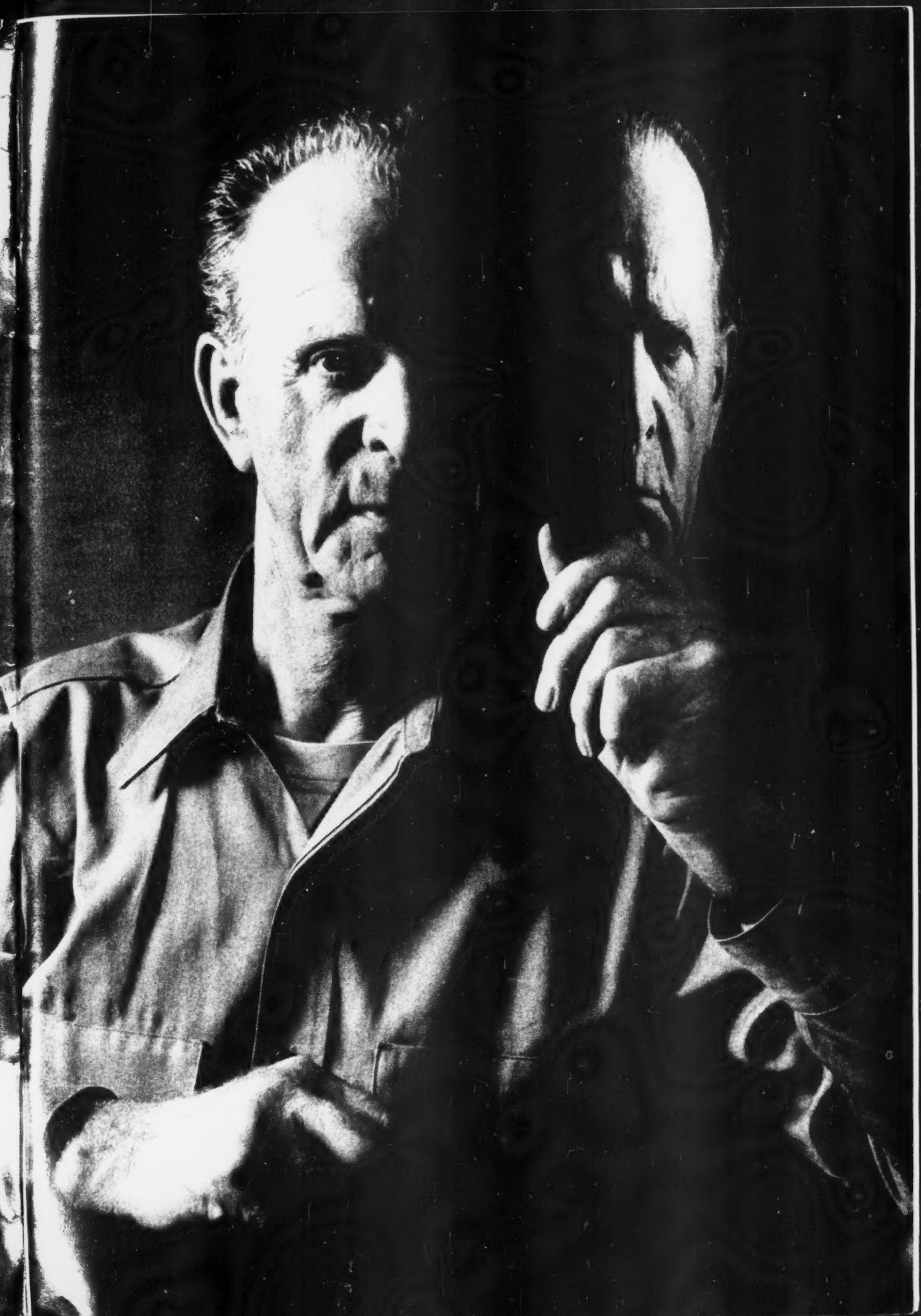
delusional and hallucinatory trends alleviated

'Stelazine' also "alleviated delusional and hallucinatory trends and facilitated communication and psychotherapy. . . . To appreciate the significance of this progress, it must be remembered that these patients had spent years on closed wards, beyond the reach of any available form of therapy."

1. Allen, V. S.: Trifluoperazine in the Treatment of Drug-Resistant Schizophrenics, J. Clin. & Exper. Psychopath. *20*:247 (Sept.) 1959.

SMITH KLINE & FRENCH

leaders in psychopharmaceutical research



REITER MODEL SOS PROVIDES FOR ALL THE FOLLOWING TECHNIQUES:

CONVULSIVE THERAPY (maximum convulsive and therapeutic efficiency) • **NON-CONVULSIVE THERAPIES** • **ELECTRO-SLEEP THERAPY** • **FOCAL TREATMENT** (unilateral and bilateral) • **MONO-POLAR TREATMENT** (non-convulsive or convulsive) • **BARBITURATE COMA** (and other respiratory problems) • **MILD SEDAC** (without sedation) **DEEP SEDAC THERAPY** (with sedation) • **PRE-CONVULSIVE SEDAC** (for anxious patients who resist **EST**) • **POST-CONVULSIVE SEDAC** (for deep sleep) • **NEUROLOGICAL CONDITIONS** • **MEASUREMENT PROCEDURES**

faster therapeutic response with

REITER MODEL SOS

the one instrument combining the strongest convulsive currents with powerful yet gentle sedative currents

- exceptionally fast clinical therapeutic response
- most efficient convulsive currents result in minimal side effects—apnea, thrust, confusion and treatment-generated anxiety are negligible
- patients are quickly clear and bright following treatment
- difficult cases have responded to SedAc deep sleep therapy—powerful, deep, effective yet safe treatments are easily applied
- SedAc current establishes better transference — patients become communicative
- anxious aversion to EST minimized by gentle SedAc current
- one-knob, with safety lock, controls convulsive and sedative currents
- clinical studies have evaluated a new measurement procedure to determine areas of cerebral damage and the degree of malfunction

Model SOS contains the Reiter unidirectional currents and three SedAc ranges as part of the single selector control. Other models available are: 1. Model S containing only the unidirectional currents; 2. SedAc (attachment) to be used with Model S; 3. SedAc (self-powered) an independent instrument.

Only Reiter, the original unidirectional current electrostimulators, are authentically backed by extensive clinical experience with over 200 references in literature and text-books.

Literature and bibliography on request.

REUBEN REITER, Sc.D.

64 WEST 48th STREET, NEW YORK 36, N. Y.

FROM MARKED IMPROVEMENT

to COMPLETE CONTROL

of GRAND MAL SEIZURES

with

"MYSOLINE"®

BRAND OF PRIMIDONE

wide margin of safety

CLINICAL EVALUATION OF 486 EPILEPTIC PATIENTS* SHOWED THAT:

In patients who had received no previous anticonvulsant medication,
"Mysoline" therapy alone provided marked improvement to complete control of major motor attacks in the majority of patients.

In patients only partially controlled with maximum dosages of other anticonvulsants,
the addition of "Mysoline" therapy was followed by marked improvement to complete control of grand mal attacks in 39% of the patients.

In patients refractory to maximum dosages of other anticonvulsants,
"Mysoline" employed alone provided marked improvement to complete control of major motor attacks in 34% of the patients.

In 39 patients with mixed seizures,
"Mysoline" provided improvement to marked control in 49% of the patients.

The dramatic results obtained with "Mysoline" advocate its use as first choice of effective and safe therapy in the control of grand mal and psychomotor attacks.

Supplied: 0.25 Gm. scored tablets, bottles of 100 and 1,000.

Literature on request.

*Livingston, S., and Petersen, D.: New England J. Med. 254:327 (Feb. 16) 1956.

5933

Ayerst

AYERST LABORATORIES

New York 16, N. Y. Montreal, Canada

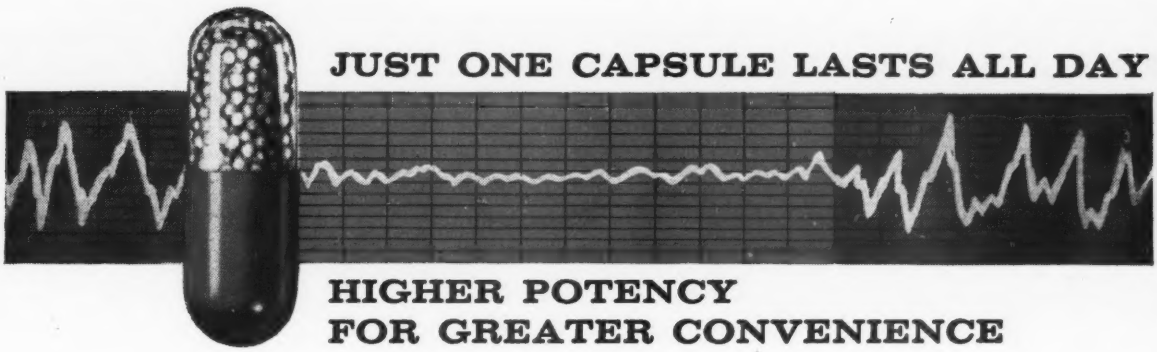
"Mysoline" is available in the United States by arrangement with Imperial Chemical Industries, Ltd.

NEW AND EXCLUSIVE

FOR SUSTAINED TRANQUILIZATION

MILTOWN® (*meprobamate*) now available in 400 mg. continuous release capsules as

Meprospan®-400



JUST ONE CAPSULE LASTS ALL DAY

HIGHER POTENCY FOR GREATER CONVENIENCE

- relieves *both* mental and muscular tension without causing depression
- does not impair mental efficiency, motor control, or normal behavior

Usual dosage: One capsule at breakfast, one capsule with evening meal

Available: *Meprospan-400*, each blue capsule contains 400 mg. Miltown (meprobamate)
Meprospan-200, each yellow capsule contains 200 mg. Miltown (meprobamate)
Both potencies in bottles of 30.

WALLACE LABORATORIES, *New Brunswick, N. J.*

CHS-8425

SMITH
KLINE &
FRENCH

helping you keep control of the patient during psychotherapy

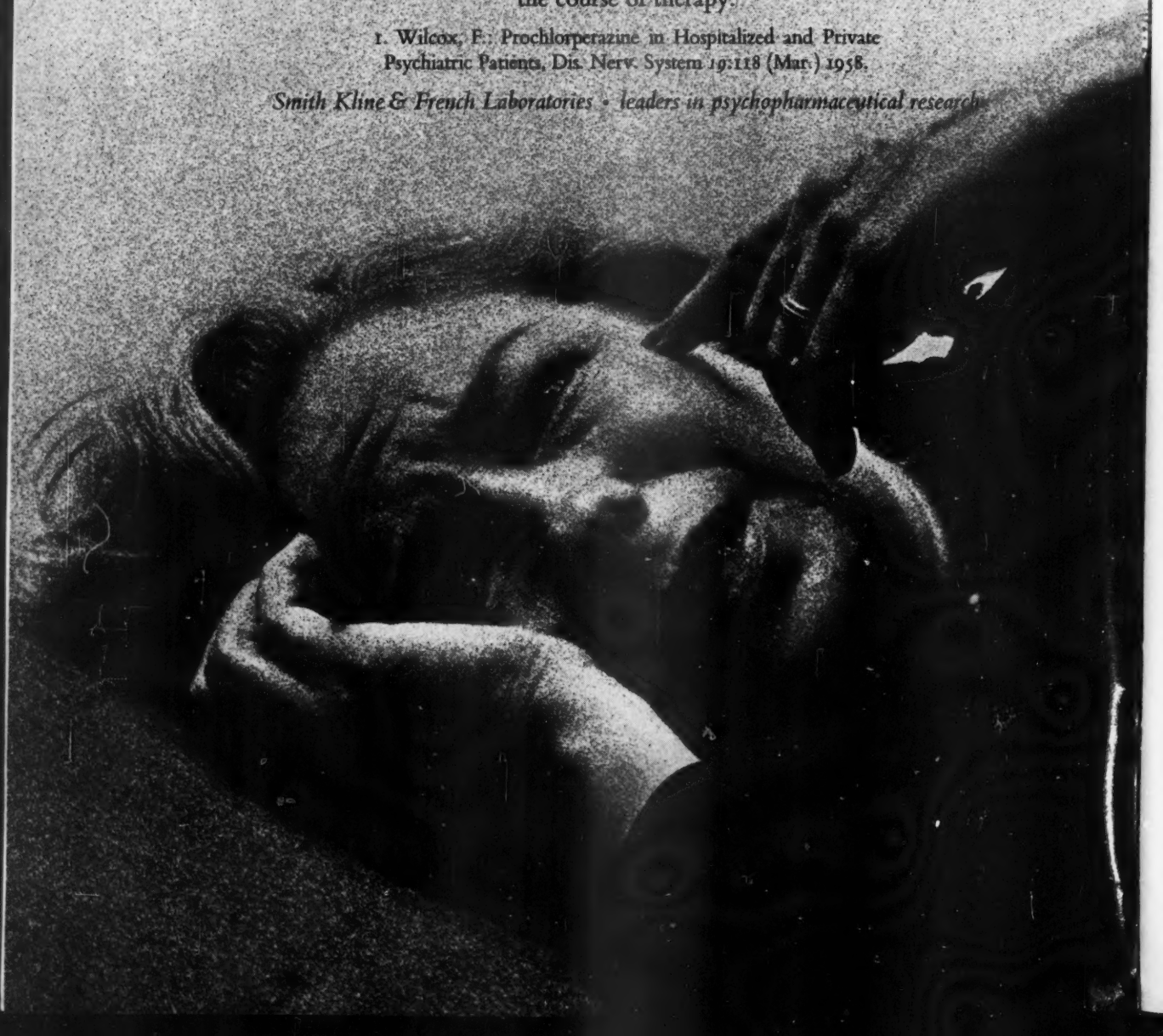
Compazine® brand of prochlorperazine

In the psychiatric management of anxiety, 'Compazine' tends to normalize emotional responses and often displays an alerting effect. Both actions are major aids in maintaining the patient's cooperation with your psychotherapeutic program.

Wilcox[1] affirmed that 'Compazine' "paved the way for the therapist to keep control of the patient" and helped the patient "to cope with situational problems and to compensate for handicaps" during the course of therapy.

1. Wilcox, F.: Prochlorperazine in Hospitalized and Private Psychiatric Patients, Dis. Nerv. System 19:118 (Mar.) 1958.

Smith Kline & French Laboratories • leaders in psychopharmaceutical research



Volume XXI FEBRUARY 1960 Number 2

DISEASES *of the* Nervous System

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Marital Disharmony: Concurrent Analysis of Husband and Wife

(A Preliminary Report)

BERNARD L. GREENE, M.D.

Introduction

This presentation is a clinical extension of psychoanalysis which generally has drawn upon various sociological and psychological disciplines. It is to be noted that much material available in anthro-sociological studies on social mobility, and measurement of psychological factors in marital maladjustment[1,2] have contributed liberally to the solution of the problem.

Freud's writings about the overwhelming influence of the Oedipus complex together with his *Contributions to the Psychology of Love,*[3] laid the groundwork for a psychoanalytic study of marriage. In addition to the basic teachings of Freud, three others, Dr. Franz Alexander, Dr. Alfred P. Solomon and Dr. Bela Mittelmann have influenced me in this study. Dr. Alexander's influence was largely inspirational, for he symbolizes in psychoanalysis the spirit of experimentation in new approaches in psychotherapy. Dr. Mittelmann[4] of New York has written many valuable papers on concurrent psychoanalysis in marital discord. Dr. Solomon of Chicago, independently developed dual therapy, and it is through his discussions with me that I received encouragement to attempt this technique as an approach to the problem of marital disharmony.

Freud[5] defined psychoanalysis as a therapy utilizing the principles of transference, resistance, and the concept of unconscious mental activity. He specifically stated: "Any line of investigation, no matter what its direction, which recognizes these two facts (transference and resistance) and takes them as the starting point of its work may call itself psychoanalysis, though it arrives at results other than my own." In the introduction to *Psychoanalytic Therapy,* Alexander[6] states: "French was the first among us to state explicitly that there is no essential difference between the various procedures, that the differences lie merely in the extent to which the various therapeutic principles are utilized." Freud[7] himself frequently modified his hypotheses, and in his last work, *An Outline of Psychoanalysis,*[7] stated: "We look forward to their being modified, corrected and more precisely determined as more experience is accumulated and shifted." With these viewpoints in mind, I believe it unnecessary to categorize my techniques except to state that either psychoanalytically-oriented psychotherapy or psychoanalysis could have been used in the cases discussed. As a matter of fact, both techniques were used interchangeably at times on the same couple. Samuel R. Lehrman, in a recent article,[8] attempted to differentiate the psychoanalytic orientation in psychotherapy from the technique of psychoanalysis.

After three successive failures in collaborative psychoanalysis, these marriages ending in divorce, I became increasingly dissatisfied with the limitations of individual therapy in marital disharmony. Success had been achieved in a number of other collaborative analyses, yet, only one failure, with its catastrophic effect on the children involved, presents a challenge. No technique can remain static. Modification on the basis of progressing psychiatric and other pro-

---

Presidential address delivered January 23, 1959, before the Illinois Society for Personality Study.

fessional knowledge must take place. A reorientation of our thinking is necessary to base the unit of treatment on the person within his marriage, rather than on the individual alone. This interaction is a vital phenomenon. It is crucial to the marital adjustment and therefore crucial in treatment. To do this, both husband and wife should be treated at the same time, and preferably by the same therapist, unless there are indications to the contrary.

I have omitted cases in which the approach has been that of counseling where suggestions and advice of an immediate and practical nature utilizing psychoanalytic principles were given. The aim in counseling was to increase one partner's adaptation to the other and sometimes to authorize one partner to expect less of the other. In successful cases of this type, no further treatment was needed. Where the treatment failed however, both partners were urged to enter analysis.

For a method of treatment to be evaluated scientifically, modern research techniques are indicated. These include random sampling, control groups, independent judges, and statistical evaluation. The effects of psychoanalytic treatment on marital disharmony with our present methods cannot be measured with scientific accuracy. For this reason, the results must remain matters of expert conjecture and intuition based on experience. The material presented in this paper is based on the study of fourteen couples. As of this writing, there has not been one divorce among them.

Frame of Reference

Only recently has attention been focused on the separate factor of interaction in marriage[9,10]—something beyond the intrapsychic phenomena of the individual personalities involved. The marital relationship is both a specific and a cultural situation resulting from the dynamic interplay of powerful emotional forces between husband and wife. These forces may be both conscious and unconscious. In every marriage there is a continuous interaction of complementary behavior and feelings. The two latter are stimulated by environmental and endogenous needs and frustrations. The course and outcome of a marriage is determined by the personality difficulties of each partner and by the way in which each partner's personality interacts. Normally, the forces involved are in equilibrium. When disharmony ensues, an altered situation occurs involving both partners. Thus every marriage involves what we might call an "eternal triangle"—the two spouses and the situation created by their interaction.

Since the neurotic process is universal[11] there are unconscious neurotic ingredients in all of us. These ingredients play a distorting role in the marriage choice, and are inflated and reinforced by the romantic Western tradition.[12] The subsequent course of a marriage depends largely on the evolution of the unconscious neurotic process. The major source of unhappiness between husband and wife can be found in the discrepancies between their demands on each other and on their marriage. The situation is often complicated as they grow older and their needs change.

Assuming marriage is an interaction between two persons, it would seem that the best approach might be concurrent treatment. Traditionally, analytic institutes do not recommend concurrent therapy by the same analyst. This doctrine is based on the belief that the less the analyst is involved in any given situation, the clearer he can observe without bias. Perhaps Freud's technical recommendation that relatives are a hindrance has partly been responsible for this unilateral approach. He[13] stated: "The most urgent warning I have to express is against any attempt to engage the confidence or support of parents or relatives . . ." Freud further says: "As for the treatment of 'relatives,' I must confess myself utterly at a loss, and I have altogether little faith in any individual treatment of them." Freud regarded as a relative the spouse who is not undergoing treatment. Even today many analysts regard simultaneous treatment as unwise. Their usual objection is that concurrent treatment makes the task more difficult, and that one or both partners will lose confidence in the neutrality of the analyst. A young psychiatrist accepts these viewpoints because of: (1) professional anxiety in defying his elders; (2) insecurity as to

his ability to deal with both spouses; (3) anxiety as to handling a double transference as well as his own counter-transference feelings; (4) apprehension to experiment with a new technique while still uncertain about his own abilities.

The usual approach, if both partners are in need of help, is to ask another analyst to enter the situation. He may be asked to do so either in the original evaluation, or when the partner not in therapy consciously or unconsciously sabotages the analysis.

Diagnosis

In a case of marital disharmony it seems illogical that only one partner be involved in the evaluation. This evaluation is not only psychoanalytic but also psychiatric. Studies on both partners provide important information. Frequently the lesser disturbed mate enters therapy first. Normalcy in one or both spouses is not a necessary ingredient for a harmonious marriage.

The research design includes the utilization of the Normative Social Adjustment Scale devised by the Barrabees and Finesinger.[14] The following areas of behavior are investigated: employment, economic position, historical development of each partner, and community activities.

Much may be learned about the harmony as well as disharmony of a marriage by studying the infancy and childhood of each spouse. In the marital situation, we find a repetition of important past experiences, especially two most significant ones, mother-child and oedipal. To understand all the conscious and unconscious motivations of the marriage, the lives of the partners from birth through courtship and into marriage are traced.

The conscious and unconscious relationship and interdependence between the spouses is noted, especially their reactions to each other's needs and defences. An evaluation of the compensatory mechanisms is pertinent in assessing the constructive and destructive elements in the marriage interaction. Particular attention is paid to the total marital relationship. The psychotherapist evaluates what is residually healthy in the personality of each partner. He also studies the positive factors of the relationship outside the neurotic aspects. Careful note is made of the degree of ego maturity and integration. The analyst evaluates what he "sees" in the relationship that is "invisible" to the partners. Finally, he evaluates the environmental stresses, their amenability to change, and their influence on the partner's personalities.

Each spouse is given a battery of psychological tests: the Rorschach, the Thematic Apperception Test, figure drawings, a sentence completion test, and the Minnesota Multiphasic Personality Inventory. The patient is often unaware of the symbolic meanings of much that he reveals. His unconscious ideas and fantasies frequently vary with what he believes are his feelings about himself and his spouse. The presentation to both mates of pertinent findings in these tests helps to establish both in analytic therapy.

Therapy

The underlying philosophy of treatment is to improve the equilibrium between the spouses. The constructive and destructive elements and their combination in the interaction are important for equilibrium. A "good" marriage does not demand two neurosis-free individuals as an ideal prerequisite. Each partner has personality traits and defensive patterns that operate within a wide range, from complementary to antithetical.

It is possible for the psychotherapist to achieve substantial improvement without resolving all the unconscious complications in each partner. The underlying aim of treatment is to teach each spouse to distinguish between conscious and attainable goals and needs on one hand, and unconscious and unobtainable goals and needs on the other. The analyst should help each partner to recognize the various faults of his behavior toward his spouse and then how to modify his behavior. He stresses that since both are responsible for the disharmony, both should participate in the solution.

The most striking single factor in the analysis of a married patient is the introduction of a new person—the analyst—into the previously closed intimate circle. The presence of the analyst often alters both the

psychic economy of the patient and the family equilibrium. The therapist becomes a vital "partner" in the intimate exchanges between husband and wife as they share joys and problems—and even as they engage in sexual intercourse. Thus, the therapist influences the marriage not only during the actual analytic hour, but as the "ghost" in the reality of daily living. He assumes a role in the patient's total emotional life.

Transference problems of the untreated spouse are a tenuous and previously little considered aspect of the treatment. Data is often subject to distortion because it is obtained indirectly from the patient. The exclusion of one spouse may arouse infantile patterns of oedipal and sibling rivalry because of the "triangular" situation peculiar to analytic treatment. It is easier to deal with a "rival" when one has had a chance to size him up. The untreated spouse may suffer considerably from bewilderment and anxieties. These reactions result from changes in the patient's behavior during the long period of analytic treatment. With both partners in therapy, the therapist can avoid unnecessary anxieties and interference. Too often the psychiatrist forgets that the untreated mate cannot be expected to change his behavior merely because the psychotherapist tells him to do so. The untreated partner is also bound to his unconscious conflicts.

At this point, in most cases, I insist that both partners go into the treatment together. Each spouse is made aware of his contribution to the disharmony. I stress the current situation at the beginning of the hour and then go on to the unconscious conflicts and forces. The "here and now" of the analytic situation is interpreted in terms of both the patient's early history and current emotional situation. This technique can often prevent the current situation from becoming worse. Bilateral presentation, often on the same day, gives the analyst a fuller perspective. He can see the biased presentation and correct it more quickly. Occasionally one partner stresses an incident that goes unmentioned by the other. Even more important, the other partner is surprised at his spouse's reaction and is unaware of his role in a given incident. Honest distortion of a situation occurs frequently. In cases of constant quarreling, withholding of the facts may be combined with exaggeration of trivial acts by one mate. The analyst interprets to both partners the unconscious motivations of their behavior.

In every analysis, the patient frequently vents neurotic rage at his spouse. By treating both partners concurrently, the analyst can intervene in their conscious and unconscious display of hostility. His interpretations can help both partners dissipate their anger.

The analyst can also prevent the pyramiding of anxiety in both partners. This might occur when one of the partners feels the stability of the marriage threatened because of a decisive alteration in the interpersonal relationship. When this anxiety is dealt with and pointed out as a necessary part of the psychotherapy, it enables the other spouse to "ride along" with it. During periods of severe stress for one of the partners, the analyst can modify such behavior of a spouse which tends to intensify his mate's tension.

Finally, the simultaneous unfolding of the transference reactions enables the analyst to understand each partner's reactions towards the other, and to judge the reality of their mutual problems. He can see specific defenses being used as well as emotional needs being revealed.

In my selection of cases for concurrent therapy, there is only one prerequisite: that the couples have children. My orientation is prejudiced in that I unequivocally state my position: that the interests and needs of either or both parents be subordinated to those of the children. Thus, the focus of leverage is to motivate changes for the sake of the children. Couples who have no children are seen concurrently only in very rare cases. From my own clinical experience, I have observed that although marital discord does not always produce neurotic symptoms in the child, they do affect his attitudes.[15] Later, these appear as unconscious patterns that impair his own choice of a marital partner. The child, in adulthood, may repeat the traumatic situations which his parents' marital discord stamped on him as a child.

A contraindication to concurrent therapy is opposition of one partner to the mate see-

ing the same analyst. Another is the analyst's knowledge of continuous infidelity by one of the partners of which the other is unaware. Such a situation complicates the transference. In one couple, this necessitated a change from concurrent to collaborative treatment. Still another objection arises in cases with an intensive sibling-rivalry problem in which one partner is unable to share the analyst as a parental figure. An important objection to concurrent therapy is the schizoid or schizophrenic inability of either mate to deal with reality. Finally, a severe degree of paranoid distortion blocks this type of psychotherapy.

The most important principle in treatment is flexibility in both technique and therapeutic goals on the part of the analyst so that he can meet the specific situational and emotional needs of each partner as they evolve. At times, both have the same number of sessions each week. At other times, one is seen more often. Nor does it matter if one spouse starts treatment with another therapist, and later transfers to the same therapist. The criteria are the emotional state of the mate and the nature of the current conflict being discussed with the therapist. The position of the patient varies from the couch to the chair, depending on the degree of reality or fantasy or regression that must be mobilized or dealt with. The attitude of the therapist varies from the classical neutral role with infrequent interpretations, to considerable activity with manipulation of the environment when indicated.

The Therapist

Disruptive emotions interfere with a person's perception. The analyst must clarify to himself what his particular emotions and involvement are in the marriage situation. He must know his own counter-transference feelings. I would assume that not all therapists are at ease in treating both mates concurrently. A prime essential is a reliable memory. The therapist must remember which spouse told him what information, thus helping both partners attain their goals without betraying the confidence of either. He must be impartial yet be active. He must be able to take a clear-cut stand in critical situations, pointing out responsibility of provocation and possible solutions. He must be able to withstand the rivalry of the spouses for his affection and their need to be the loved child. At the same time, he must avoid under or over-identification with either spouse. The ability to test for accuracy in the midst of the highly charged feelings that usually accompany the description of conflictual material is essential. The analyst must set the pace of therapy by gauging the emotional capacities and limitations of each partner. He has to be aware of the effect of his own personality on each spouse and also on the couple's relationship. He must be on the alert for unexpected and devious use of marital flare-ups for purposes of resistance and must avoid traps set by one of the partners. He should always be aware of, and in control of the transference problems, distinguishing between elements based on real experiences and those of a neurotic source. At times, the analyst is viewed as a rival, a person who is siding with the other mate. At other times, he is felt to be an ally. This may manifest itself in different ways: by tattling, by asking advice on how to handle the partner, or by seeking the therapist's aid in punishment for wrongs suffered at the hands of the spouse. At times the analyst is viewed as omnipotent, with limitless capacities and knowledge. He is thought to be able to change the mate by magic and thus save the partner the need for working out his own conflicts. Frequently the desire for his admiration is emphasized by a bitter struggle between the partners to assure themselves of his favor. On the other hand, the therapist may be seen as an impotent figure, with continuous complaints about lack of progress. One of the partners might regard him as a punitive and depriving figure. The therapist relates these feelings to behavior as seen by the couple in the development of their own children, enabling the patients thereby to gain insight into their own childlike attitudes.

Analyses of Cases

Space does not permit a detailed description of each case in this study. Of the 14 couples I have treated concurrently, all are still married. Our cases are classified as primary and secondary. In primary cases,

advice was sought because the marriage situation was threatened. In secondary cases, the treatment was sought for complaints other than those of the marriage or because disharmony occurred as the result of treatment of one partner. The psychopathology of the cases was varied and ranged from sado-masochistic to sexual incompatibility.

Six of the 14 cases are still in treatment. Of the five that completed therapy, four achieved satisfactory results. In one case, the partners are still married but quarrel frequently. Three couples discontinued treatment. In one of them, the husband refused further treatment. In the second, the wife had a paranoid psychosis that did not respond to psychotherapy. In the third case, one partner developed a recurring manic-depressive reaction requiring electroconvulsive therapy. In the five completed cases, the combined hours of treatment for husband and wife ranged from 102 hours to 411 hours. In the uncompleted cases, the hours ranged from 17 to 111 hours. For a complete breakdown see Table I.

CASES NO LONGER IN TREATMENT

HOURS OF THERAPY

COMPLETED CASES

Outcome		*Wife*	*Husband*	*Total*
S	Case No. 1	266 Hours	145 Hours	411 Hours
S	Case No. 2	100 Hours	20 Hours	120 Hours
S	Case No. 9	81 Hours	21 Hours	102 Hours
S	Case No. 14	5 Hours	124 Hours	129 Hours
U	Case No. 13	100 Hours	116 Hours	216 Hours

S=Satisfactory; U=Unsatisfactory

UNCOMPLETED CASES

Case No. 4	60 Hours	15 Hours	75 Hours
Case No. 6	101 Hours	10 Hours	111 Hours
Case No. 12	13 Hours	4 Hours	17 Hours

30 N. Michigan Ave., Chicago 2, Illinois.

REFERENCES

1. Harrower, M.: "The Measurement of Psychological Factors in Marital Maladjustment" in Neurotic Interaction in Marriage. New York, *Basic Books, Inc.*, 1956, p. 169-191.
2. Piotrowski, S. A., and Dudek, S. Z.: "Research on Human Movement Response in the Rorschach Examinations of Marital Partners," in Neurotic Interaction in Marriage. New York, *Basic Books, Inc.*, 1956, p. 192-207.
3. Freud, S.: "Contributions to the Psychology of Love." Collected Papers, Vol. IV, London, *Hogarth Press*, 1934.
4. Mittelmann, B.: *Psychoanalytic Quart.*, XIII, 479-491, 1944.
Psychoanalytic Quart., XVII, 182-197, 1948.
"Simultaneous Treatment of Both Parents and Their Child." Specialized Techniques in Psychotherapy, G. Bychowski and J. L. Despert, eds., New York, *Basic Books, Inc.*, 1952.
"Analysis of Reciprocal Neurotic Patterns in Family Relationships" in Neurotic Interaction in Marriage, *Basic Books, Inc.*, 1956, p. 81-101.
5. Freud, S.: Collected Papers, Vol. I, "On the History of the Psychoanalytic Movement," 1914, p. 298, London, *Hogarth Press*, 1924.
6. Alexander, F., and French, T. M., eds.: "Psychoanalytic Therapy," New York, *Ronald Press Co.*, 1946, p. VII.
7. Freud, S.: "An Outline of Psychoanalysis." New York, *W. W. Norton and Co.*, 1949, p. 36.
8. Lehrman, S. R.: *Arch. of Neurol. and Psychiat.*, Vol. 80, Sept. 1958, p. 351-362.
9. Ackerman, N. W.: "The Psychodynamics of Family Life." New York, *Basic Books, Inc.*, 1958.
10. Eisenstein, V. W.: Editor, "Neurotic Interaction in Marriage." New York, *Basic Books, Inc.*, 1956.
11. Kubie, L.: "Psychoanalysis and Marriage: Practical and Theoretical Issues" in Neurotic Interaction in Marriage. New York, *Basic Books, Inc.*, 1956, p. 10-43.
12. Montagu, M. F. A.: "Marriage—A Cultural Perspective" in Neurotic Interaction in Marriage. *Basic Books, Inc.*, New York, 1956, p. 3-9.
13. Freud, S.: Collected Papers, Vol. II, "Recommendations for Physicians on the Psychoanalytic Method of Treatment," 1912. London, *Hogarth Press*, 1934, p. 333.
14. Barrabee, P., Barrabee, E. L., and Finesinger, J. E.: *Am. J. Psychiat.*, Oct. 1955, p. 252-258.
15. Mahler, M. S., and Rabinovitch, R.: "The Effects of Marital Conflict on Child Development" in Neurotic Interaction in Marriage. *Basic Books, Inc.*, New York, 1956, p. 44-56.

Treatment of Drug-induced Extrapyramidal Symptoms

(A Comparative Study of Three Antiparkinson Agents)

WALTER KRUSE, M.D.

With the advent of the newer pharmacotherapies in psychiatry a new therapeutical problem arose: the treatment of drug-induced extrapyramidal symptoms. Frequency, type and severity of these symptoms depend on the particular neuroleptic drug being used and its dosage. There are considerable discrepancies in the reported incidence of extrapyramidal symptoms in drug treated patients, but this—as Freyhan[1,2] has pointed out—is largely due to the fact that the gradual reduction of psychokinetic activity cannot be compartmentalized into normal versus extrapyramidal modes of motility patterns. Almost all of the patients show either a slight poverty of movement and facial fixity or, with some of the newer drugs, a certain restlessness, or a restless feeling, especially in the legs. The full blown Parkinson syndrome or the very distressing state of intolerable restlessness that is characteristic of the akathisia syndrome is found less often.

Five years ago when neuroleptic drugs were first used on a larger scale the drug-induced extrapyramidal symptoms consisted mainly of muscular rigidity, tremors, salivation, parkinsonian gait and posture. With reserpine, akathisic symptoms occurred occasionally, but they were mostly of a mild nature. Most of the commonly used antiparkinson drugs were effective in relieving these symptoms. But with the introduction of the more potent phenothiazine derivatives the extrapyramidal symptoms became less uniform and treatment became more difficult. About one half of the patients developed a feeling of inner unrest, of pulling or drawing in their extremities, especially legs, they were frequently unable to sit down and keep still, they had to shift the position of their legs constantly or were pacing all day long. This syndrome, called akathisia, was typical of some of the newer drugs.

There were also a great variety of other extrapyramidal symptoms: torticollis, oculogyric spasms, torsion spasms, speech and swallowing difficulties, mandibular tics, perioral spasms, involuntary protrusion of the tongue, etc. These symptoms usually were only transitory in nature, however, and subsided promptly when one or two doses of the neuroleptic drug were omitted, or upon intravenous administration of caffeine sodium benzoate or Sodium Amytal.

From Danvers State Hospital, Hathorne, Mass.

Method

This study is based on a three months' evaluation of each of the following drugs: benztropine methanesulfonate, procyclidine, and ethopropazine. Each drug was given to 112 female patients who had developed extrapyramidal symptoms while on one of the following neuroleptic medications (the average daily dosage in parenthesis): trifluoperazine (40 mg.), fluphenazine (32.5 mg.), mepazine (300 mg.), thiopropazate (60 mg.), and flupromazine (400 mg.).

About one third of the patients in each group were also included in one or both of the other groups, and their extrapyramidal symptoms were either well controlled or not satisfactorily relieved by the previous agent. A period of one week or more was allowed where no antiparkinson drugs were given. Two things became clear as a result of this method: first, the belief that extrapyramidal symptoms are only a transient phenomenon was not found to be true in the vast majority of our patients, and second, withdrawal reactions of the type recently described by Brooks[3] did occasionally occur even though the only drug abruptly discontinued was the antiparkinson drug. In order to avoid the interference of possible withdrawal symptoms with the results of our study we felt it advisable to extend the duration of the study to three months for each of the three drugs. Another reason for doing this has been pointed out recently by Schwab and England:[4] "Parkinsonism varies tremendously from hour to hour and day to day in most subjects." It is good to keep this in

mind. Not infrequently we saw almost unbelievable changes within a few hours that very definitely were not the result of the medication. Only prolonged observation of the patient will determine whether the medication is of value in a particular case or not.

About one half of the patients in each series were classified as akathisic, the others had rigidity and tremors as main symptoms.

Results

Benztropine Methanesulfonate

This drug had been used by us on a fairly large scale when chlorpromazine and reserpine were the main neuroleptic drugs in our hospital. We were satisfied with its effect and hardly ever had reason to try another antiparkinson agent because of failure to relieve the extrapyramidal symptoms. However, when we started to use prochlorperazine, perphenazine and then trifluoperazine on a larger scale the results obtained with benztropine methanesulfonate were frequently unsatisfactory. It was then that we decided to undertake this study.

When rigidity and tremors are in the foreground, and especially in combination with sialorrhea, benztropine methanesulfonate in our group of female patients gave prompt relief in 86% of the cases. However, only 21% of the cases that developed the akathisic syndrome responded satisfactorily to this drug. The dosage used was 2 mg. daily to 6 mg. daily. Dosages higher than 2 mg. daily were not well tolerated by more than half of the patients because of extreme dryness of mouth, and less often, blurred vision. Especially patients on trifluoperazine, mepazine and fluphenazine had already developed this side-effect as a result of the atropine-like action of these drugs, and benztropine methanesulfonate only added to their discomfort.

Procyclidine

This appeared to be the drug of choice in combating the akathisia syndrome: 57% responded favorably and lost practically all of the unpleasant symptoms that characterize this condition. It was also effective in controlling rigidity, tremors and sialorrhea and related symptoms in 81% of the patients. Dosage ranged from 15 to 30 mg. daily. No serious complications were observed, but about 20% of the patients complained of blurring of vision, and since a number of patients had already developed this side effect as a result of the neuroleptic medication it was felt inadvisable to give more than a minimal dosage (15 mg.) of procyclidine to these patients.

Ethopropazine

Because of its chemical relationship with the neuroleptic drugs, this seemed to be a particularly interesting drug. It was surprising to see that of all three antiparkinson agents used in this study it was ethopropazine that was best tolerated by those patients that had developed dry mouth and blurred vision as a side-effect of the neuroleptic drugs. Drowsiness was reported by about one quarter of the patients, but this was not much of a problem since the newer phenothiazine derivatives that we used will not usually cause drowsiness in the patients. Of the patients with rigidity and tremors, 88% were satisfactorily controlled by ethopropazine, as were 26% of the patients with akathisia. Daily dosage was 200-400 mg.

Summary

Three commonly used antiparkinson agents —benztropine methanesulfonate, procyclidine, and ethopropazine—were used in a comparative study of their effectiveness in 112 female patients that were on neuroleptic medication and had developed extrapyramidal symptoms. All three drugs have about the same degree of high effectiveness (80% or more) in controlling rigidity, tremors and related symptoms. Benztropine methanesulfonate or procyclidine are preferable where sialorrhea is a conspicuous symptom while ethopropazine is more advantageous where the newer phenothiazine derivatives that have a tendency to cause dry mouth and blurring of vision are being used; these symptoms will not be materially aggravated by ethopropazine as compared with the two other drugs.

The treatment of the akathisic syndrome is still difficult. The best results (57% satisfactorily controlled) were achieved with procyclidine. Excessive dryness of mouth and blurring of vision may develop, however. Benztropine methanesulfonate is effective

in about one fifth of the cases and has similar, but less severe side effects. Ethopropazine will relieve the akathisic syndrome in one out of four patients, and here again the absence of a strong atropine-like action is its main advantage.

None of the three drugs caused any serious toxic or irreversible reactions in our series.

Acknowledgments: Bentropine methanesulfonate was provided by Merck, Sharp & Dohme as "Cogentin." Procyclidine was provided by Burrough Wellcome & Co., as "Kemadrin." Ethopropazine was provided by Warner-Chilcott Laboratories as "Parsidol."

BIBLIOGRAPHY

1. Freyhan, F. A.: Observations on the Clinical Use of Tranquilizing Agents. *Del. State Med. Journ.*, Vol. 29, No. 8: 191-195, August 1957.
2. Freyhan, F. A.: Psychomotility and Parkinsonism in Treatment with Neuroleptic Drugs. *Arch. Neur. & Psychiat.*, Vol. 78, No. 5: 465-472, Nov. 1957.
3. Brooks, G. A.: Withdrawal from Neuroleptic Drugs. *Am. J. Psych.*, Vol. 115, No. 10, April 1959, 931-932.
4. Schwab, R. S., and England, A. C.: Newer Preparations in the Treatment of Parkinsonism. *Med. Clin. of North America*, 369-379, March 1957.

Reliability of Clinical Judgments of Improvement

ROBERT E. PECK, M.D.

As a by-product of some work that was being done at the New York Veterans Administration Hospital on the validation of a rating scale, it was brought out that clinical rankings of monthly improvement by staff, residents, nurses, and aides showed remarkable agreement. This was contrary to expectation and seemed to warrant reporting because of the possible uses such rankings might have in psychiatric hospitals in the more precise evaluation of progress with different therapeutic techniques.

The technique is not new. However, it is seldom used in clinical work in psychiatry. A card file was kept on the ward on all patients who had been there for as much as ten days of the month in question. At the end of the month, the file was given to the staff psychiatrist, resident, charge nurse, and one senior aide; each in turn rank-ordered the list for improvement during the month. No definition was made of "improvement," other than that it be behavioral and evident from observation alone. The cards were shuffled between each rank-ordering. Each rank order was then made into a list numbered from 1 to n, the most improvement being 1. Ties were bracketed. Coefficients of concordance were calculated for the various rankers of each ward. These are given in the following table. Blank cells represent wards which for some reason did not turn in an ordering for any particular month. Significance at the .001 level for the particular N is marked with a double dagger, .01 by a dagger, .02 by two asterisks, and .05 by one. The technique of calculating the coefficient is fully explained in textbooks of statistics. Siegel's work is useful, as it includes ready tables for the determination of significance.[2] After the coefficient had been determined, the rank-ordering was posted on the chart room bulletin board for reference, the median and quartiles having been marked off.

Coefficients of Concordance for Monthly Improvement Rankings

Month		18N	18S	17N	17S	16N	16S
	W	.672†	—	.447	.577†	—	.644†
Dec.	N	28	—	26	33	—	37
	k	3	—	3	4	—	2
	W	.628‡	.844‡	.378	—	.595‡	—
Jan.	N	29	22	32	—	39	49
	k	4	3	3	—	3	2
	W	.830‡	.867‡	.561**	.780‡	.715‡	—
Feb.	N	29	28	30	47	40	50
	k	4	3	3	4	3	2
	W	.711‡	.776‡	—	.677‡	.658‡	.633†
Mar.	N	28	31	—	37	44	54
	k	3	3	—	4	3	2
	W	.740**	.755†	.796*	.670‡	.760‡	.698†
Apr.	N	28	35	31	34	37	55
	k	4	3	2	4	3	2

REFERENCES

1. Peck, R. E.: A Practical Rating Scale for Psychiatric Use. In Lindley, C. J. (Editor). Transactions of the Third Research Conference on Chemotherapy in Psychiatry. Washington, D.C. Veterans Administration, 1959.
2. Siegel, S.: Nonparametric Statistics. *McGraw-Hill*, New York, N. Y., 1956.

Fluphenazine in the Treatment of Mentally Retarded Children with Behavior Disorders

GERALD D. LAVECK, M.D., FELIX DE LA CRUZ, M.D.,
and ELEANOR SIMUNDSON, R.N.

Episodes of assaultive, impulsive and destructive behavior in mentally retarded children present a challenging problem in the management of these patients. Before tranquilizing drugs were introduced such episodes were often controlled by physical restraining measures. Within the past few years, however, such drugs as Rauwolfia, chlorpromazine and other phenothiazine derivatives have provided benefit in modifying the disturbed behavior in these patients[1-3] to the extent that the need for physical restraints was reduced or eliminated.[1,2] On the other hand, many investigators have not found tranquilizing drugs effective in controlling abnormal behavior in retarded children.[4-7]

Recently, a new phenothiazine derivative, fluphenazine (Prolixin) has become available for clinical trials. Laboratory studies have demonstrated that fluphenazine possesses a tranquilizing action in monkeys and other laboratory animals many times that of chlorpromazine.[8] Subsequent preliminary clinical studies have indicated that the potency of fluphenazine as an antipsychotic agent in both chronic and acute cases is at least 25 times that of chlorpromazine, on a weight basis.[9]

At the Rainier School where approximately 1900 mentally retarded children are housed in 23 separate halls with 50 to 100 children on each hall, many of the young, moderately and severely retarded children are very difficult to manage because of their abnormal behavior. A study was carried out to evaluate the effectiveness of fluphenazine in favorably modifying their behavior.

Method of Study

The Patients

A total of 48 children was selected for study who exhibited abnormal behavior characterized by hyperactivity, aggressiveness, destructiveness, and self-abusive activity. Many of these children required restraints to prevent their biting themselves and others, or to avert attacks on other children or creating a severe disturbance on the halls. In 42 of the 48 children, organic brain damage was the cause of mental deficiency. In four children the cause was unknown while in the remaining two of the 48 patients the diagnosis was familial mental deficiency. The chronological ages of the children ranged from five to 16 years.

Of the 48 patients 38 had been previously treated with other tranquilizing agents. For the first two weeks of the study period, however, all tranquilizing medication was withdrawn and this two-week period without active medication served as a basis for comparison after therapy was begun.

For purposes of the study the children were divided into two equal groups, one to receive fluphenazine and the other to receive a placebo by the double-blind method of administration. The two groups were similar from the point of view of age, sex, intellectual ability and the severity of the behavior disorders exhibited. (Table I.)

None of the doctors, nurses, or attendants involved in the study knew which child was given the medication and which the placebo; in fact, only the two physicians conducting the study knew of the existence of a control group. The hospital pharmacist was the only person connected with this study who knew the identity of the medication given to the respective groups.

At the conclusion of the double-blind study, seven children in the placebo group and eight in the fluphenazine group were given fluphenazine using a dosage schedule somewhat greater than that used in the double-blind study.

Evaluation Procedures and Criteria

During the entire period of the study, which lasted from December 5, 1958 to March 12, 1959, each child was under con-

From Rainier School, Buckley, Washington.

Fluphenazine used in this study is manufactured by E. R. Squibb & Sons under the trade name Prolixin.

tinuous observation by attendants and their observations were recorded by each shift of attendants along the following lines of behavior:

The need for isolation in a quiet room;
The need for restraints;
How frequently the child exhibited destructiveness, such as breaking dishes, tearing clothes and destroying bedding;
How frequently the child engaged in fighting with other patients;
Self-gagging tendencies;
Self-abusive activity;
Hyperactive behavior.

Any evidence of side effects was also noted.

During the initial two-week period of observation without medication, and again at the completion of the period of study, the hemoglobin, white blood cell and differential counts, urinalysis, thymol turbidity, total serum bilirubin, and cephalin flocculation values were determined in each case. Throughout the study, each child was weighed monthly and examined at least once each week by one of the two pediatricians conducting the study. The blood pressure was recorded weekly. Periodically the pediatricians, the attending nurse and other attendants evaluated the child as to clinical response to treatment in the following terms: markedly improved, improved, no change, or worse. A child was considered markedly improved if his behavior had been modified to such a degree that he rarely or ever created a disturbance on the hall; he was considered improved when he could be easily managed by hall personnel most of the time although episodes of abnormal behavior recurred almost daily.

TABLE I

The Patients

	Group Fluphenazine	Group Placebo
Cause of Mental Retardation		
Cerebral birth trauma	3	7
Cerebral postnatal infections	4	2
Congenital cerebral maldevelopment	7	5
Mongolism	2	1
Due to convulsive disorder	0	1
Familial	1	1
Kernicterus	0	1
Organic brain damage	3	6
Unknown	4	0
Total	24	24
Psychologic Diagnosis (I.Q.)		
0 - 25	19	19
26 - 50	4	5
51 - 70	1	0
Total	24	24
Age in Years		
5 - 9	3	4
10 - 14	19	12
15 and over	2	8
Total	24	24

Administration of Medication

After the initial period of observation medication was begun in a dosage of 0.5 mg. fluphenazine daily, either as an elixir or tablet, and the dosage was increased depending on the clinical response of the patient and the appearance of side effects. In dosages up to 2.5 mg., the drug was administered as a single daily dose, in dosages between 2.5 and 10 mg., it was given twice a day and in dosages greater than 10 mg., three times a day. The dosage of fluphenazine exceeded 10 mg. in only three cases, these children receiving 15, 20 and 30 mg. respectively. The placebo tablets were administered in identical manner.

Following the double-blind study seven children in the placebo group and eight children in the fluphenazine group were given medication in slightly higher dosage. These fifteen patients had failed to respond during the double-blind study. The minimum daily dose was 2.5 mg. while a maximum dose of 40 mg. was given. The purpose of this part of the study was to determine the value of higher doses of fluphenazine. These children were treated for a two-month period.

Results

The response to therapy is summarized in Table II. It is apparent that a total of 10 children manifested improved behavior after treatment with fluphenazine, in two there was marked improvement. The improvement was most evident in the severely retarded children with intelligence quotients below 25, nine of the 19 severely retarded children who were treated with the drug responding

favorably. Only five children showed improved behavior after receiving the placebo, three of these being severely retarded children. Although more children improved in the fluphenazine group than in the placebo control group statistically this was not significant at the 5% level. Thus, chance could account for the observable differences in the two groups.

TABLE II

Summary of Behavioral Response

	Fluphenazine	Placebo
Behavioral Response		
Markedly Improved	2	1
Improved	8	4
No change	12	15
Worse	2	4
Total	24	24

The apparent minimal effective dose of fluphenazine was 0.5 mg., or 0.01 mg. per pound of body weight, and the maximum dose required was 7.5 mg., or 0.15 mg. per pound of body weight. A daily dose of 5.0 to 7.5 mg. fluphenazine was administered without producing side effects though doses of 20 mg. and 30 mg., respectively, produced no improvement, nor side effects, in two of the patients. There is no apparent correlation between clinical response and the cause of the mental deficiency.

Side effects were few and mild. Of the 24 children treated with fluphenazine, one had minimal hypotension, another showed signs of parkinsonism characterized by extension of the head and a fine tremor of the extremities, a third exhibited excessive drowsiness and a fourth excessive drooling. These reactions were controlled by a reduction in the dosage and in no case was it necessary to withdraw the drug. Three of the 24 children treated with fluphenazine were hospitalized during the course of the study, two because of pneumonia and the third because of severe convulsive seizures. The two children with pneumonia had always had difficulty with respiratory infections and the child with seizures had been previously admitted to the hospital several times for the same condition. In none of the three was the medication considered to be related to these attacks.

In the placebo group, two children became very drowsy, two lost excessive weight, and one experienced more severe seizures than previously. One child was hospitalized because of diarrhea.

The blood and liver function studies showed normal values in every case and there was no evidence of leukopenia. Urinalysis disclosed albuminuria in one patient prior to treatment which disappeared after therapy and pyuria in another patient at the completion of the treatment period. Aside from the weight loss in two children receiving the placebo, there were no significant differences in weight in either group.

Following the double-blind study, seven children in the placebo group and eight children in the fluphenazine group were treated with higher doses of fluphenazine. None of these children had improved during the double-blind study. Twelve of the 15 children improved on the higher doses. The minimum effective dose was 2.5 mg. or 0.02 mg. per pound body weight, and the maximum dose that was needed to obtain the desired effect was 40 mg. or 0.45 mg. per pound body weight. In general a daily dose of 5.0 to 12.5 mg. (0.02 to 0.13 mg. per pound body weight) was most commonly found to be effective without producing severe side effects. Two of these patients failed to improve on high doses of fluphenazine while one patient became worse. Side effects again were generally mild and consisted of drowsiness in two patients and excessive drooling in two patients.

Discussion

The findings of this study indicate that fluphenazine is a useful drug in the treatment of behavior disorders in mentally retarded children. Although improvement was observed in only 10 of the 24 patients treated, this was most evident in the severely retarded children who are usually the most difficult to manage. Moreover, in the children responding to treatment the drug was effective in relatively low dosage, administered once or twice a day which is an advantage for the administering personnel. It is possible that with higher doses of fluphenazine in the double-blind study more children would have improved. The fact that 12 of 15 children who had not responded to

medication during the double-blind study improved when slightly higher doses of medication were given tends to confirm this assumption.

The low incidence of side effects and their mildness are a distinct advantage but may only reflect the low dosage employed. The results indicate that it is not possible to predict on the basis of the etiologic diagnosis which child will respond to therapy and which will not.

The improved behavior observed in five of the 24 children who received the placebo may have been in part the result of the additional attention the patients received during the study.

The sample of data is small and admittedly the difference in response to fluphenazine as compared to placebo is not statistically significant at the 5% level; however, with a larger study group it seems likely that chance alone could be eliminated as the cause of the observable differences in the two groups.

Summary

The effectiveness of fluphenazine was compared with a placebo in 48 mentally retarded children with abnormal behavior characterized by aggressiveness, destructiveness, hyperactivity and self-abuse. The children were divided into two similar groups of 24 children each, one receiving fluphenazine and the other placebo under a double-blind technique of administration. Improved behavior was observed in 10 children after treatment with fluphenazine, being most evident in the severely retarded children. The minimal effective dose of fluphenazine was 0.5 mg., or 0.01 mg. per pound of body weight, and the maximum dose needed to obtain the desired response was 7.5 mg. or 0.15 mg. per pound of body weight. In general, 5.0 to 7.5 mg. fluphenazine was effective without side reactions, though two patients did not respond to doses of 20 mg. and 30 mg., respectively.

Side effects were few and mild and never required discontinuance of therapy, though in a few instances the dosage was reduced. One child developed a minimal hypotension, another exhibited an extension of the head accompanied by a fine tremor of the extremities, a third had excessive drooling and a fourth became excessively drowsy.

Behavior in five of the 24 children given placebo improved, three of the five children being severely retarded. The difference in response to fluphenazine as compared with placebo was not statistically significant in this small sample. The trends observed merit further investigation on a larger sample.

Acknowledgment: The authors wish to express their appreciation to Dr. Wesley D. White for his valuable assistance in this evaluation.

REFERENCES

1. Pallister, P. D.: Effects of Serpasil in Small Dosage on Behavior, Intelligence and Physiology. *Am. J. Ment. Deficiency,* 1957, 62, 267-274.
2. Johnston, A. H., and Martin, C. H.: The Clinical Use of Reserpine and Chlorpromazine in the Care of the Mentally Deficient. *Ibid.* pp. 292-294.
3. Bergin, J. J. F., and Bergin, M. M.: Sparine in Low-grade Mental Defectives. *J. Irish M. Assoc.,* 1958, 42, 29-30.
4. Craft, M.: Tranquilizers in Mental Deficiency: Meprobamate. *J. of Mental Deficiency Research,* 1958, 2, 17-20.
5. Craft, M.: Tranquillizers in Mental Deficiency: Chlorpromazine. *J. of Mental Deficiency Research,* 1957, 1, 91-95.
6. Wardell, D. W., Rubin, H. K., and Ross, R. T.: The Use of Reserpine and Chlorpromazine in Disturbed Mentally Deficient Patients. *Am. J. Ment. Def.,* 1958, 63, 330-344.
7. Graham, B. D., Rosenblum, S., Callahan, R. J.: Placebo-Controlled Study of Reserpine in Maladjusted Retarded Children. *J. of Dis. of Children,* 1958, 96, 690-695.
8. Burke, J. C., and Linegar, C. R.: Pharmacology and Toxicology of SQ 4889, 4918, and 4924. New Brunswick, N. J., *The Squibb Institute for Medical Research* (Laboratory Reference Manual) 1957.
9. Darling, H. F.: Fluphenazine: A Preliminary Study. *Dis. Nerv. Syst.,* 1959, 20, 167-170.

Clinical Evaluation of a New Phenothiazine in Chronic Psychiatric Patients

LLOYD K. SINES, PH.D., and JOHN S. HAMLON, M.D.

The therapeutic value and psychophysiological effects of Sch-6673 were studied via the "double-blind" experimental technique with a sample of severely disturbed, chronic psychiatric patients. Sch-6673 is a new phenothiazine derivative similar in its chemical structure to perphenazine (Trilafon). The essential difference between the two compounds is that in Sch-6673 there is a $COCH_3$ in place of the chlorine atom in the two position of the phenothiazine nucleus, i.e., Trilafon is acetylated in that position. Pharmacological studies with animals have suggested that the new compound would retain the tranquilizing effects of Trilafon, though by virtue of its chemical difference it would produce fewer extrapyramidal side effects. Early clinical studies with human subjects using dosages up to 200 mgm. per day tended to bear out the impressions gained from infra-human studies.

Subjects

In the present study 61 male patients from the maximum security ward of the Fergus Falls State Hospital were selected on the basis of an estimated suitability for a chemotherapeutic regimen. The patients ranged in age from 29 to 64 years (mean 46.5), and in length of hospitalization from 4 to 28 years (mean 17.3). Sixteen of the patients had had a lobotomy, and 25 (42%) were receiving some tranquilizing medication at the time of their selection for the study. The final data analyses were made for a total sample of only 59 patients. One drug group patient was dropped during the course of the study because of an exacerbation of a previously existing arthritic condition, while one placebo group patient was dropped because of the occurrence of an extreme hypotensive syndrome. Of the 59 patients concluding the study 45 had a diagnosis of some form of schizophrenia, while the remainder had diagnoses of other psychotic reactions, mental deficiency (7 cases), or chronic brain syndrome (3 cases). The patients as a group manifested severe behavioral and psychiatric disturbances though there were some exceptions to this rule.

Procedures

All patients were rated prior to the commencement of the drug regime by ward personnel using two scales reflecting the level of behavioral integration. Further, the ward physician and a clinical psychologist interviewed and rated each patient independently. Specially constructed rating scales reflecting psychiatrically pertinent behaviors and other characteristics were used by the latter raters. Following the initial assessment procedures all patients were randomly assigned to either the drug or the placebo group. A five-phase experimental regime was employed, i.e.; Phase I was a 2½ week interval during which time no tranquilizing medication (or placebo) was administered. Any previously administered tranquilizing medication was withdrawn at the beginning of the period. Phase II was a one-month interval of placebo administration to all patients in the study. During this phase each patient was given one placebo tablet three times a day. Ward personnel were not aware of the fact that all patients were receiving the inert preparation during this period. Phase III was a twelve-week interval during which time the 30 patients randomly assigned to the active drug group received the experimental compound, while the 29 patients in the placebo group continued receiving the placebo preparation. Phase IV was a five-week interval of placebo administration to all patients in the study. Patients who had previously received the experimental compound were changed to the placebo preparation at the beginning of this period, though neither patients nor ward personnel were aware that a change was made at that time. Phase V of the study was a final 2½ week interval during which time no

From Fergus Falls State Hospital, Fergus Falls, Minn.

tranquilizing medication (or placebo) was administered.

Patients were rated monthly by ward personnel on the two behavioral rating scales. In addition, the physician rated each of the patients at the end of Phase I, at monthly intervals during the three-month drug regime, and at the conclusion of Phase V. Mental status ratings of all patients were completed by a clinical psychologist at the end of Phase I, twice during the three-month drug regime, and at the conclusion of Phase V. Blood pressure determinations were made twice weekly and brief observational notes were made by the ward physician and psychologist at (at least) weekly intervals. Routine laboratory blood studies were carried out. On the basis of available information including laboratory work, frequent interviews and observational examinations, the ward physician manipulated drug dosage for each patient in accordance with current chemotherapeutic practices with chronic psychiatric patients. Though extrapyramidal and other side reactions were noted, antiparkinsonian agents were not employed.

At several points in the experimental regime all personnel involved in the study attempted to judge, or guess, which patients were receiving the active drug and which were receiving placebo. None of the personnel involved in the study had factual information concerning the drug or placebo status of the patients. The latter fact was known only to the hospital pharmacist and research analyst who effected the random assignment of patients to the two experimental groups.

Results

All personnel having direct contact with the patients in the study were able to judge more accurately than would be expected on the basis of "chance" alone, which patients received the active drug and which did not. The ward physician, psychologist, and psychiatric aides were able to identify correctly drug and placebo group patients in approximately 80% of the cases. These findings are consistent with those of Hall and Dunlap (1955), and seriously question whether studies of the major tranquilizers, such as phenothiazines, are actually "blind" in the sense that the evaluators lack awareness of the drug or placebo status of patients.

Manifest Behavior

There was a trend for all patients in the study (both drug and placebo) to show improvement in manifest behavior as reflected in the behavioral rating scales. Thus, a general "placebo effect" was observed. However, the application of appropriate statistical tests (analysis of covariance) indicated that the drug group patients showed significantly greater gains or improvements in this area than did patients in the placebo group. The latter finding was especially marked on the behavioral rating scale which reflected deviant behavioral symptomatology, such as aggressive or other antisocial acting out. The second behavioral rating scale, which has a somewhat different orientation in that it reflects integrated behavioral patterns rather than pathological behavior, suggested that even though the deviant behavior tended to diminish with medication, more integrated behavioral patterns were not necessarily substituted in their place.

It was also noted that the behavioral improvements observed among the drug group patients occurred early in the course of treatment (within the first 30 days), and persisted during the seven-week follow-up period (Phases IV and V) of the study.

Mental Status

The psychologist's mental status ratings of the drug group patients indicated a significant improvement among those patients during the drug regime, whereas placebo group patients remained essentially unchanged in this respect. Further, there was a trend (though not statistically reliable) for the mental status of drug group patients to improve by the end of the first month of the drug regime. Actually, the improvement noted between the pre-drug level and the end of the first month of the drug regime was much greater than all subsequent improvements. However, only in the case of the later mental status ratings (that is, at the end of the 12 week drug regime) was the degree of improvement in mental status among

drug group patients statistically reliable. This finding suggests that most of the beneficial effects of the drug were realized early in the course of administration and that subsequent improvements in mental status were minimal.

Physician's Ratings

The ward physician's ratings indicated statistically reliable improvements among both drug and placebo group patients during the first two months of the drug regime. Further, the placebo group patients were rated as improved at the end of the twelve-week drug regime, whereas the drug group patients showed some retrogression toward their earlier (pre-drug) level. Finally, the physician's ratings at the end of the seven-week follow-up (which included five weeks of placebo administration followed by 2½ weeks of no medication) indicated that the patients who had received the active drug during Phase III were improved, relative to their initial level, whereas the placebo group patients received ratings which were essentially the same as their initial ratings. This apparent inconsistency can be readily resolved when the clinical significance of the findings is noted. That is, it would appear that the patients in both drug and placebo groups showed initial gains during the first two months of the drug regime—even if this were only the so-called "placebo effect." However, by the end of the twelve week period of medication drug group patients had been receiving very high dosages and were undoubtedly "over-medicated." The latter fact may well account for the apparent retrogression of the drug group patients, since they may have been either underactive, undertalkative, or reduced physically beyond an optimum level.

The fact that the placebo group patients maintained their apparent improvement would follow from the fact that they had not been so reduced, as was the case of patients receiving high dosages of the active drug. This line of reasoning is further supported by the findings at the end of the seven-week post-drug period. At that point most of the drug group patients who had experienced severe physical reactions (two drug group patients required bed rest toward the end of the drug regime) to the high dosages had recovered their physical vitality and appeared improved from their previous reduced level. The physician's ratings of the drug group patients had improved by the end of the post-medication phase, not only over those obtained at the end of the drug regime, but also over the initial (pre-drug) level. In summary, the physician's ratings would suggest that any benefit from the drug beyond that of the usual "placebo effect," could be negated by over-dosing, and further, that drug-induced improvements persisted for a greater time than was the case with patients experiencing only the so-called "placebo effect."

A further finding from the physician's ratings is worthy of note. At the end of the twelve-week drug regimen, 10 of the 30 drug group patients (33%) were judged by the physician to have improved in psychiatric status from their initial level, whereas only three of the 29 placebo group patients (10%) were judged by the physician to have improved. The difference between these proportions is statistically reliable. Also, at the end of the seven-week post-drug follow-up period (Phases IV and V) a significantly greater number of drug group patients were rated as improved by the physician than were placebo group patients. The percentages here were 60.0 and 37.9, respectively. The apparent increase in the number of patients improved after the seven-week follow-up, relative to the end of the twelve-week drug phase may be accounted for by the fact discussed earlier, i.e., several of the drug group patients had been severely reduced physically by the high dosages of drug but had recovered by the end of the seven-week post-drug period, and showed observable improvements in their condition relative to their initial level.

The increase in the number of placebo group patients showing improvement at the end of Phase V may be attributed to either or both 1) an overall (ward-wide) decrease in behavioral disturbance, and 2) a change in the rater's "set" in making his judgments of improvement. However, it is the *relative* rate (drug vs. placebo group) of "improvement" which is of primary importance here.

Physical Findings

A. Blood Pressure. Analyses of the average blood pressure values at various points in the experimental regime indicated that neither systolic nor diastolic blood pressure was consistently or significantly altered during the experimental period for either the drug or placebo group of patients. No significant changes in blood pressure were observed considering the drug phase as a whole, nor when separate analyses were made for various dosage levels within the drug regime. Even at the highest dosage levels a slight (apparent) decrease in the drug group averages did not prove to be statistically reliable. A further breakdown of the distribution of blood pressures indicated that while the drug phase mean pressures for five hypotensive patients in the drug group were not significantly altered from their pre-drug level, the mean diastolic and systolic pressures during the drug phase for four patients with the highest (though not hypertensive) blood pressures were significantly decreased over their pre-drug level. Thus, the drug may have some effect in lowering higher blood pressures, though no hypotensive effect is apparent in patients with characteristically low readings.

B. Blood Studies. While no significant changes from pre-drug level were observed in either drug or placebo group for hemoglobin values, there was a statistically reliable decrease in total white blood count during the middle and later phases of the drug regime. However, the latter finding may not be construed as suggesting a clinically significant depression of white blood count, but rather was a statistical finding only. No evidence of clinical leucopenia was observed among any of the patients in the study. The mean white blood count for the drug group patients was at all times well within the normal range, and at no time were individual instances of clinically significant decreases in white blood count observed. The lowest individual WBC among drug group patients was 4150, which was observed at 420 mgm. per day.

C. Body Weight. Patients receiving the placebo preparation tended to gain an average of 3½ pounds of body weight during the six months of the experimental regime. Further, while there was a trend among the drug group patients early in the drug regime to increase in weight, individual patient losses in weight during the final months of the drug regime (at the highest dosage levels) brought the drug group average weight down to the mean pre-drug level. One patient (who also showed the "shock-like" syndrome described by Weiss (1958), and required bed rest toward the end of the drug regime) lost a total of 45 pounds during the experimental period. Another patient, who also manifested extrapyramidal symptoms, showed a weight loss of 13 pounds. Greatest weight losses among the placebo group patients were 8 and 9 pounds.

D. Side Effects. A number of psychophysiological manifestations of varying degrees of severity and significance were noted during the course of the drug administration (Table I). In general, three main types of side reactions were noted among the drug group patients. These were, in the order of their frequency, 1) reduced motor activity including psychomotor retardation, 2) drowsiness and lethargy, and 3) extrapyramidal symptoms. There were at least three Parkinson-like reactions, with one or more of the following symptoms: body rigidity, tremor, excessive salivation or drooling, and mask-like facies.

E. Prognostic Factors. An analysis of the initial behavioral and psychiatric characteristics of patients who responded differentially to the drug suggests that it was the more severely ill patients who were most benefited by the drug. Patients receiving relatively good initial ratings, and whose hospital adjustment was relatively more adequate were not particularly benefited by the drug, and may even have shown some losses in these respects during the course of the drug regime. This suggests that one major effect of the drug was change the behavioral and other characteristics of the patient to whom it was administered. Further, if the patients were severely ill and impaired prior to the drug administration, this change would likely constitute an improvement in their condition and adjustment, whereas in the case of patients relatively well adjusted within the ward setting, and manifesting rel-

TABLE I

Frequency of Psycho-physiological Manifestations

	Drug Group N=30	*Placebo Group* N=29
Drowsiness	11	3
Weakness and/or fatigue	11	1
Motor retardation	18	1
Motor agitation	1	2
Tention	2	9
Facial pallor	9	5
Excessive salivation	6	0
Body rigidity	4	0
Body tremor	3	1
Gait disturbance	2	1
Vertigo	2	0
Syncope	1	0
Somatic complaints	4	3
Seizure	3*	2
Edema (ankle)	2	2
Dysphoria	2	0
Euphoria	1	4
Dry mouth	1	0
Incontinence	1	0
Tachycardia	1	1

*Two of the three patients in the drug group who were observed to have one or more grand mal seizures during the drug regime had a previous history of seizures. Both placebo group patients had a previous history of seizures.

atively less severe impairments, the change brought about by the drug administration may have detracted from their initial level of integration. Further support for this interpretation of the data is offered by the fact that the relationship suggested here did not hold among the group of patients receiving the placebo preparation. In the latter group there was little, if any, relationship between initial behavioral or psychiatric status and the degree of subsequent change or "improvement." Rather, only random fluctuations from initial to final status appeared to occur among the placebo group patients. From these findings it is suggested that the selective use of the drug would appear indicated, with a view toward changing or disrupting established behavior or ideational patterns.

Discussion

Sch-6673 appears to be an effective tranquilizing agent with few severe side effects in therapeutic dosages. Parkinson-like reactions were observed in no more than 20% of the patients—even at the highest dosages—though motor retardation or a general soporific effect were observed in approximately one-half of the cases.

It was found that relatively high dosages were required in order to effect therapeutic changes among the patients studied. All patients were begun on 60 mgm. per day and were increased to a maximum dosage of 900 mgm. per day within six weeks. Behavioral changes were not consistently observed until dosages were within the 400 to 600 mgm. per day range, and it was at these levels that optimal therapeutic benefits with minimal side reactions were observed. It was felt that, while higher than optimum dosages were tolerated quite well by the patients as a group, and that further or more pronounced side reactions were not consistently encountered, the therapeutic benefits of the drug could be diminished or negated by "over-medicating."

There was suggestion of a relatively slow rate of absorption and excretion of the compound in that two of the patients who manifested extrapyramidal signs retained such symptoms up to two weeks after the drug was discontinued.

In summary, Sch-6673 was found to be an effective tranquilizing agent with few severe side effects. Its potency is considerably less than that of many other phenothiazine derivatives, notably Trilafon, and it has relatively great margin of therapeutic safety. The drug appears to be especially effective in changing existing behavioral patterns, and in this sense is useful in the chemotherapeutic approach to regressed or hyperactive patients.

Acknowledgments: The authors wish to thank the Schering Corporation, Bloomfield, N. J., for supplies of the drug used in this study, and Dr. J. Black of the Division of Clinical Research, Schering Corp., for his cooperation and assistance.

REFERENCES

Hall, R. A., and Dunlap, D. J.: A Study of Chlorpromazine: Methodology and Results with Chronic Semi-disturbed Schizophrenics. *J. Nerv. Ment. Dis.*, 1955, 122, 301-314.

Weiss, I. I., Rubinger, J. H., Sorin, M., and Ryzen, N.: Trilafon Treatment in Psychotics. *Am. J. Psychiat.*, 1958, 114, 118-119.

Serpasil Treatment of Adolescents with Behavior Disorders

CONRAD M. AYRES, M.D.

The effect of drugs in the treatment of adults with neurotic and psychotic reactions has been extensively investigated. There is, however, a regrettable paucity of scientific knowledge on the effect of drugs in the treatment of adolescents with behavior disorders. This study attempts to fill in this gap. The drug used was Serpasil, a selected brand of reserpine, a compound remarkably free from lethal dangers.

A random group of 50 adolescents, admitted to the New York State Training School for Girls, Hudson, N. Y., because of behavior disorders, and who were expected to remain at the school for at least six months, constituted the test group. Fifty other girls, living in the same cottage units, and similarly expected to remain six months, made up the control group.

The average age of the girls was 15 years; their average I.Q. was 85. Psychosis was ruled out by detailed individual psychiatric examinations, with special emphasis on the possible impaired functioning of the following ego elements: effective system, ideational system, psychomotor activity, reality sense and sensory system.

All the girls received routine testing by the author at the electroencephalographic laboratory of the school, and were screened to eliminate those with abnormal encephalograms, low blood pressure, or history of epilepsy, because of the possible convulsive and hypotensive reactions to Serpasil.

The 50 girls in the test group received oral Serpasil tablets daily for a period of three months. Each girl had an initial daily dose of 0.25 mg. Serpasil, which was gradually increased to a maintenance daily dose of either 1 mg. (43 girls) or 2 mg. (seven girls), according to requirements and tolerance.

Throughout the six month duration of the study, the 100 girls (50 in the test group and 50 controls) were seen on daily rounds and at regularly scheduled individual interviews, weekly or more often, if indicated. Observations were noted promptly in individual records, the salient findings of which were abstracted and entered on individual behavior charts as shown in Figure 1.

SERPASIL STUDY—1955
OBSERVATIONS ON 50 ADOLESCENTS

BEHAVIOR CHART

NAME ADOLESCENT GIRL GRADE 7TH AGE 14 DATE 1955

SYMPTOMS* & DIAGNOSTIC GROUPS	Before Tr't-ment	Serpasil Treatment			Follow-up Observ'n		
		1 Mo.	2 Mos.	3 Mos.	1 Mo.	2 Mos.	3 Mos.
1. AGGRESSION	xxxx	xxx	xx	x	xxx	xx	xx
2. ANXIETY	xxx	xx	xx	x	xxx	xx	x
3. COMPULSIVE TRENDS	xx	xx	xx	xx	xx	xx	xx
4. DEPRESSION	x	xxx	xx	x	x	x	x
5. HABIT DISORDERS	xxx	xx	xx	x	xx	xx	xx
6. HEBOID TRAITS	xxx	xxx	xxx	xx	xxx	xxx	xxx
7. HYPOCHONDRIA	x	xxx	xx	xx	x	x	x
8. IMPULSIVENESS	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
9. LACK OF INTERESTS	xxx	xxx	xx	x	x	xx	xx
10. MISCONDUCT	xxxx	xxxx	xxx	xxx	xxx	xxx	xxxx
11. MOODINESS	xx	xxx	xxx	xx	xx	xx	xx
12. NEUROTIC TRAITS	xxx	xxx	xx	xx	xxx	xxx	xxx
13. SEXUAL DEVIATION	xx	xx	xx	x	xx	xx	xx
14. SOCIAL MALADJUSTMENT	xxx	xxx	xx	xx	xx	x	xx
15. SUSPICION	xxxx	xxx	xx	x	xx	x	xx
16. WITHDRAWAL	xxx	xxx	xx	x	x	xx	xx
ANXIETY NEUROSIS (SYMPTOMS 1 & 2)	xxx	xx	xx	x	xxx	xx	xx
COMPULSIVE NEUROSIS (SYMPTOMS 3, 7, & 12)	xx	xxx	xx	xx	xx	xx	xx
DEPRESSION (SYMPTOM 4)	x	xxx	xx	x	x	x	x
DISSOCIAL PERSONALITY (SYMPTOMS 5, 10, & 13)	xxx	xxx	xx	xx	xx	xx	xxx
IMMATURE PERSONALITY (SYMPTOMS 6, 8, & 11)	xxx	xxx	xxx	xxx	xxx	xxx	xxx
SCHIZOID PERSONALITY (SYMPTOMS 9, 14, 15, & 16)	xxx	xxx	xx	x	x	xx	xx

* x Mild
xx Moderate
xxx Severe
xxxx Very severe

Fig. 1. Effect of Serpasil treatment (1-2 mg. daily/3 mos.) on various symptoms of behavior disturbance. A typical record.

The control group received placebo tablets daily for three months. No significant changes in behavior were noticed in this group during the period of placebo treatment, and for the three month period of follow-up observations, except for the improvement normally to be expected from the training program of the school.

From the New York State Training School for Girls, Hudson, N. Y.

Side Effects

Side effects from Serpasil, such as malaise, nasal congestion, headache, dizziness, diarrhea, and in rare cases skin rashes, occurred at the beginning of treatment in approximately one third of the test group. In general, the side effects were mild and disappeared spontaneously within a few days. The few cases with severe side effects were promptly relieved by appropriate treatment, mainly anti-allergic medication. Increased appetite and gain in body weight was evident in most of the test group.

Menstrual function became temporarily suspended in one of the girls for the duration of treatment, but promptly reappeared after discontinuation of Serpasil. Depression, hypochondriasis, and moodiness, when already present, showed a moderate and temporary increase in several girls at the beginning of Serpasil treatment.

In a small number of test girls, nocturnal enuresis, which had not been present previously, became evident during the initial period of treatment, possibly connected with increased depth of sleep induced by Serpasil. In general, enuresis lasted only a few days and disappeared without the need for reducing dosage.

The Behavior Chart

A behavior chart has been compiled by the author to include 16 symptoms. These were the symptoms found to be most constantly associated with the diagnosis, "behavior disorder," including conduct, emotional and habit disturbance, in a systematic study of approximately 3,000 records of disturbed children and adolescents treated by the author over a period of seven years' work as child psychiatrist at various state clinics and institutions.

This behavior chart was found useful by the author for the purpose of systematic and standardized recording and for ready recognition and identification of changes in degrees and shifting levels of disturbance in various expressions of behavior disorders in adolescents.

Section A. of the syllabus, shown in Figure 2 contains an analysis and synthesis of the various descriptions and definitions of the 16 symptoms as they appeared in the records mentioned above.

SERPASIL STUDY—1955

OBSERVATIONS ON 50 ADOLESCENTS

SYLLABUS

A. SYMPTOMS

1. AGGRESSION: Attitude of excessive dependence (passive expression of aggression) and overt aggressive behavior (hostility, destructiveness, tantrums, etc.).
2. ANXIETY: Fear of difficulties, disasters, tragedies, etc., without proper cause; severe anxiety may cause mutism and suicidal attempts.
3. COMPULSIVE TRENDS: Obsessive recurrence of unwanted thoughts and performance of ritualistic or ceremonial activities.
4. DEPRESSION: Attitude or expression of sadness and unhappiness accompanied by psychomotor retardation; severe depression causes indecision and inaction.
5. HABIT DISORDERS: Disturbance of one or more organic functions (eating, speaking, reading, digestion, micturition, etc.).
6. HEBOID TRAITS: Silly and uncooperative behavior, inappropriate affect, lack of purpose, unconcern for other people's feelings, etc.
7. HYPOCHONDRIA: Excessive preoccupation with health, bodily functions, minor ailments, and non-existing diseases.
8. IMPULSIVENESS: Expression of emotional instability (explosiveness of voice and actions, defective motor and emotional control with minor difficulties, etc.).
9. LACK OF INTERESTS: Lack of interest in the outside world (people, work, hobbies, etc.) and in the self (pride, personal care, etc.).
10. MISCONDUCT: Lack of discipline, lack of respect for authority, disregard of rules and regulations, lying, stealing, firesetting, etc.
11. MOODINESS: Unpredictable mood-swings.
12. NEUROTIC TRAITS: Automatic disturbance of partial components of functions (tics, blushing, rocking, thumb-sucking, nail-biting, compulsive masturbation, etc.).
13. SEXUAL DEVIATION: Overtly deviant sexual behavior (homosexuality, bestiality, fetishism, etc.). This is a form of habit disorder with special social implications.
14. SOCIAL MALADJUSTMENT: Difficulty in adjusting to group life and new situations.
15. SUSPICION: Persecutory trends (brooding, severe sensitivity, marked stubbornness, constant complaining, litigiousness, etc.).
16. WITHDRAWAL: Shy, aloof, and retiring attitude.

B. DIAGNOSTIC GROUPS

ANXIETY NEUROSIS: sympsoms	1, 2
COMPULSIVE NEUROSIS: symptoms	3, 7, 12
DEPRESSION: symptom	4
DISSOCIAL PERSONALITY: symptoms	5, 10, 13
IMMATURE PERSONALITY: symptoms	6, 8, 11
SCHIZOID PERSONALITY: symptoms	9, 14, 15, 16

Fig. 2. Syllabus with definition and classification of symptoms and diagnostic groups of Behavior Chart (Fig. 1).

Section B of the syllabus shows the distribution of the 16 symptoms into various diagnostic categories, as they were found most frequently by the author in his study of these records.

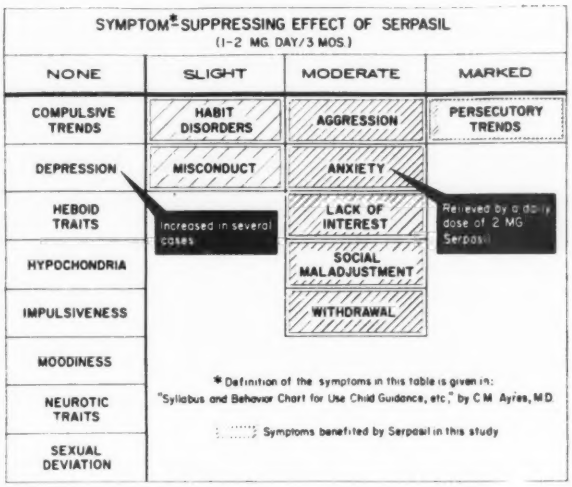
Results

The results of this study are presented in relation to each of the symptoms listed in

SERPASIL STUDY

OBSERVATIONS ON 50 ADOLESCENTS

A. GENERAL OBSERVATIONS



B. SPECIAL OBSERVATIONS WITH SEM. G DIAGRAMS TO ALLOW COMPARISONS OF CHANGES OF RATE

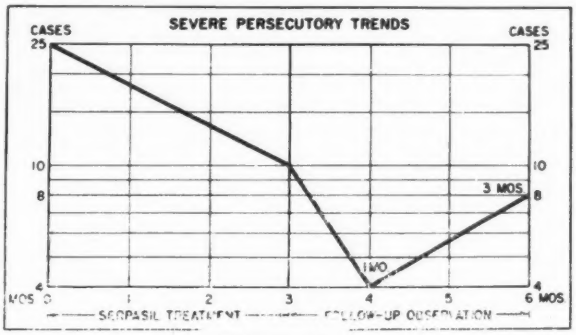


Figure 5a.

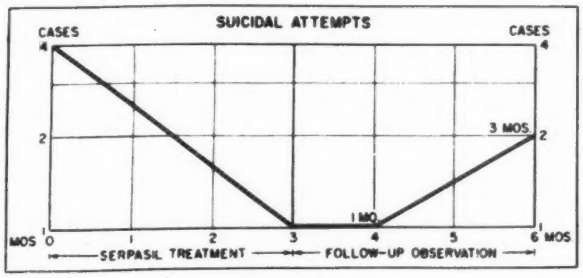


Figure 5b.

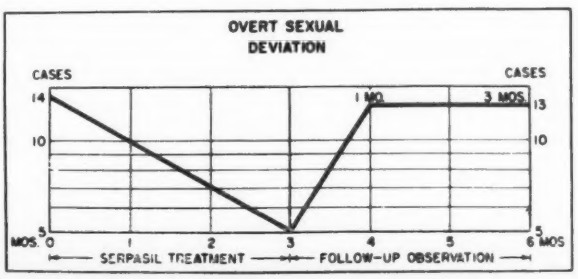


Fig. 3. Observations on Serpasil treatment.

the syllabus and on the basis of the recordings entered on the girls' individual behavior charts.

The number of cases benefited by Serpasil for each symptom are mentioned only when the number is too small to warrant generalization or when referring to graphs.

Results are schematically shown in Figure 3, Section A.

1. *Aggression:* Serpasil was beneficial in cases of aggression. Improvement persisted after treatment, during the follow-up period of observation.

2. *Anxiety:* Serpasil proved beneficial also in relieving, apparently unmotivated or otherwise pathological fears. With the disappearance of anxiety, the girls' verbalization became more rational and less emotional. A daily dose of 1 mg. Serpasil benefited patients with mild degrees of anxiety. However, a daily dose of 2 mg. Serpasil was required for successful control of severe anxiety.

Section B of Figure 3 shows that, prior to treatment, four girls had attempted suicide. At the completion of treatment one of them again attempted suicide. Three months after the end of treatment suicidal attempts were made by the latter girl and by another one of the original four.

3. *Compulsive Trends:* Obsessive and compulsive symptoms improved in a few cases but only minimally and temporarily.

4. *Depression:* At the beginning of Serpasil treatment several girls who had previously shown slightly depressive trends became more depressed. However, the increased depression subsided spontaneously before the end of treatment and disappeared readily when Serpasil was discontinued.

5. *Habit Disorders:* Most cases of habit disorders were beneficially influenced by Serpasil; others, possibly due to chronicity, proved resistant to Serpasil treatment.

Three girls suffered from irregular menstrual rhythm, which irregularity disappeared during the course of Serpasil treatment and failed to reappear during the follow-up period of observation.

Two girls suffered from severe asymbolic speech disturbance; that is, they experi-

enced marked difficulty in finding appropriate words to express their thoughts. Their conversation, for the most part, was made up of such words as "do-jigger," "thingy," etc. Both of these girls were benefited by Serpasil.

Three girls were stutterers and one suffered from asthma. Prior to Serpasil treatment, the stutterers had received individual and group psychotherapy without benefit. Two stutterers recovered normal speech enunciation during the Serpasil treatment period which lasted through the follow-up period. The third stutterer and the asthmatic girl improved moderately while receiving Serpasil but relapsed soon after the drug was discontinued.

6. *Heboid Traits:* This symptom became somewhat less evident during the course of treatment, but generally reappeared when Serpasil was discontinued. In a few girls a more mature attitude seemed permanently established. However, in the writer's opinion, their improvement had been fostered by the training program of the school rather than by Serpasil treatment *per se,* for similar progress was observed in girls with heboid traits who did not undergo Serpasil treatment.

7. *Hypochondria:* At the beginning of treatment, this symptom became temporarily evident, or, if pre-existent, more evident in some of those girls suffering from severe side effects of Serpasil (nasal congestion, headache, diarrhea, etc.). In general, however, hypochondriacal trends were not significantly effected by Serpasil.

8. *Impulsiveness:* This symptom was not benefited by Serpasil.

9. *Lack of Interests:* This symptom became less severe and less evident both during and after Serpasil treatment.

10. *Misconduct:* This symptom generally abated slightly during Serpasil treatment, but reappeared in less severe form after treatment had been discontinued.

11. *Moodiness:* This symptom was not benefited by Serpasil and in some cases became even more severe. When some appreciable decrease in moodiness appeared, it did not last long after treatment had been discontinued.

12. *Neurotic Traits:* Neurotic traits were present in most of the girls, but were benefited by Serpasil only in the following 12 cases.

A marked diminution of the trait of skin-carving was observed in the six girls who exhibited this symptom, and this trait did not reappear during the follow-up period of observation.

Two girls who had shown the trait of head-rolling at bedtime, and four girls who had, for several months, resorted to compulsive masturbation in order to fall asleep at night, lost these traits during Serpasil treatment, and maintained their improvement during the entire period of follow-up observation.

13. *Sexual Deviation:* Section B of Figure 3 shows that prior to Serpasil treatment, overt sexual deviation was exhibited by 14 girls; at the end of treatment, there were five girls with this symptom; three months after the end of treatment, the number had risen to 13.

Prior to Serpasil treatment the majority of the girls with overtly deviant sexual behavior showed rather severe degrees of aggression, anxiety, suspicion, etc. During Serpasil treatment and throughout the follow-up period, these neurotic symptoms became less severe even though most of the girls again resorted to sexually deviant habits after discontinuation of the treatment.

In this connection it may be mentioned that even though the girls' sexual behavior showed a persistent deviant character during this period, overt homosexuality in adolescents, especially in institutional settings, in general is more likely to prove a transient situational reaction than a fixed deviation of the sexual impulse, as is usually the case in older patients with overt sexual deviation.

14. *Social Maladjustment:* This symptom was benefited by Serpasil, and, to a large extent, the improvement lasted through the period of follow-up observation.

15. *Suspicion:* Girls with all degrees of suspicion, from mild to severe, were benefited by Serpasil, but the beneficial effect was most evident in the girls with severe persecutory trends.

Section B of Figure 3 shows that, prior to Serpasil treatment, severe persecutory trends were present in 25 girls; at the end of treatment, they were present in 10 girls; and one month after treatment had been discontinued, they were present in only four girls. At the end of the three month period of follow-up observation, severe persecutory symptoms were present in eight girls.

16. *Withdrawal:* Practically all cases in this study who presented symptoms of withdrawal were benefited by Serpasil.

Remarks on Dosage

Upon discontinuance of treatment, a temporary acute flare-up of behavior disturbance, alarmingly close to the pre-treatment situation, occurred in the patients treated with 2 mg. Serpasil daily; this flare-up subsided spontaneously to a large extent during the next two months. The girls treated with a 1 mg. daily dose did not suffer from a similar post-treatment flare-up of disturbance. This indicates that, when a dose of Serpasil of over 1 mg. daily is used with adolescents, it should be reduced gradually.

Summary and Conclusions

Fifty adolescent girls with behavior disorders received for a three month period an everage daily dose of Serpasil of 1-2 mg., according to requirements and tolerance. A control group, also of 50 adolescent girls with behavior disorders, received Serpasil-Placebo for a three month period. Both groups were kept under observation for a further three month period of follow-up.

In view of the symptom-suppressing action of Serpasil, a detailed study was made on the effect of this drug on each of the 16 symptoms contained in the behavior chart (Figure 1) standardized by the writer and defined in the accompanying syllabus (Figure 2, Section A).

No significant changes in behavior were noticed in the control group during the course of this study, except for the improvement normally to be expected from the training school program.

The effects of Serpasil in the test group are schematically shown in Figure 1 and Figure 3, Section A, and may be summed us as follows:

A. *No suppressing effect found:*

Compulsive Trends
Depression
Heboid Traits
Hypochondria
Impulsiveness
Moodiness
Neurotic Traits—with a few exceptions
Sexual Deviation

B. *Suppressing effect found:*

1. *Slight Suppressing Effect:*

Habit Disorders
Misconduct

2. *Moderate Suppressing Effect:*

Aggression
Anxiety
Lack of Interests
Social Maladjustment
Withdrawal

3. *Marked Suppressing Effect:*

Persecutory Trends

This study demonstrates that Serpasil has therapeutic qualities for adolescent children with behavioral disorders. Further research in this field should provide additional information regarding this drug as a tool to be added to the armamentarium of the child psychiatrist.

Acknowledgments: The drug Serpasil used in this study was generously supplied by Ciba Pharmaceutical Products Inc., Summit, N. J.

The assistance and cooperation of Mr. A. G. Novick, Superintendent of the New York State Training School for Girls, Hudson, N. Y., during the study is gratefully acknowledged.

2501 Morris Avenue, New York 68, N. Y.

Evaluation of Hydroxyzine Prior to Electroshock Therapy

HAL W. GEYER, M.D.

Kraines[1] noted that fatalities in electroshock therapy (EST) have increased and are more frequent when barbiturates, curare-like drugs, or anti-epileptic drugs are employed with this therapy. The possibility of laryngospasm and respiratory depression, resulting from the administration of these drugs, greatly adds to the hazards of EST. By reason of past personal experience, the use of these agents had been discontinued some years ago to avoid undesirable complications. It was, therefore, necessary to dispel the patient's apprehension and fear by other means as it was not unusual for the treatment to be rejected entirely.

Although patients experience no adverse sensation during the actual administration of EST, they approach therapy with apprehension and fear. Kraines proposes two reasons for these reactions: (1) the dislike of being conscious one moment and unconscious the next, or (2) the dread of the confusion which follows treatment. Previous reports[2-6] concerning the clinical usefulness and safety of hydroxyzine in various areas of medicine indicate that it is effective in the alleviation of many neuropsychiatric clinical entities such as emotonal disturbances, agitation, anxiety, tenseness, fear, apprehension, etc. This study of hydroxyzine was initiated to evaluate its effectiveness in the alleviation of these entities as experienced by the patient confronted with EST.

Method

A group of 200 patients who were fearful, apprehensive or agitated prior to EST were selected from private practice, the psychiatry clinic of a general hospital, and from a government hospital. The office and clinic patients came for EST voluntarily accompanied by a relative or a friend. Hence, they were in a position to refuse or sidestep therapy. For this reason, it was necessary to maintain good rapport with each patient so that he would arrive for treatment with a minimum of difficulty.

During a period of 14 months, 1395 electroshock treatments were given after the administration of hydroxyzine, each patient receiving from 5 to 12 treatments at varying intervals. The patients treated with hydroxyzine were diagnosed as having manic depressive reactions; schizophrenic reactions of the catatonic paranoid, acute or chronic undifferentiated, schizo-affective, and residual types; and short process-paranoid states. Each patient, upon arrival for treatment, was interviewed to determine the degree of fear, apprehension or agitation, and to attempt to minimize these disturbances. Each patient received 25 to 100 mg. of hydroxyzine intramuscularly, dosage being fixed by the physical and mental condition of the patient. The patient was again interviewed prior to electroshock therapy. The Reiter Electrostimulator[7-9] and Sedac Machine was employed for therapy.

Results

The patients became calmer with less apprehension and agitation within 12 to 30 minutes after the administration of hydroxyzine. A gross, health relaxation was observed and the patients were more receptive to the rationale of electroshock therapy. These effects also carried over into the treatment and post-treatment phase. Upon awakening the patients were relaxed with a sense of well-being. Although there was amnesia for the treatment, the patients were fully aware of their surroundings and were fully oriented and conversing within 25 to 45 minutes. No fractures occurred and there was no post-treatment muscular pain.

Hydroxyzine had no adverse effect on the heart, pulse, blood pressure, and respiration. Prior to the administration of hydroxyzine, there was marked increase in blood pressure, pulse rate, and respiration because of the patient's apprehension, but these symptoms abated after apprehension was alleviated.

The following cases illustrate the effec-

From Medical Center, Rehoboth Beach, Delaware, and Neuropsychiatry Section, Beebe Hospital, Lewes, Delaware.

tiveness of hydroxyzine in calming fearful and apprehensive patients before EST.

Case 1. A 64 year old white female diagnosed as having a psychotic depressive reaction. She had frequent transient episodes of inappropriate weeping. Intermittently, she believed, without reason, that her son and daughter-in-law were becoming alcoholics. Her delusions reverted to her first marriage in which the husband was a pronounced alcoholic, causing a stormy and unhappy marriage. She exhibited paranoid ideas of reference brought out during examination. She was hostile toward the therapist because she felt that he was not in harmony with her thinking. Psychotherapy proved of no use. EST was inaugurated and she was given 50 mg. hydroxyzine intramuscularly 10 minutes prior to treatment. After the third treatment, she showed improvement and was treated without hydroxyzine the next time. She complained after the treatment that she did not feel as well as she did after the previous treatments. Examination further revealed that she was not as relaxed and did not have the same sense of well-being following recovery from the treatment. On the next treatment she was givn 75 mg. of hydroxyzine as she was very apprehensive, resistant, and hostile. She received her treatment without difficulty. Upon the next visit she said that she felt much better after the last treatment and came without fear for the next one. This patient made an excellent recovery and was placed on 50 mg. t.i.d. of oral hydroxyzine prior to her psychotherapeutic interview. She ventilated freely, denied delusions and ideas of reference and made an excellent recovery. Her husband was interviewed and gave an excellent description of the difference with and without hydroxyzine.

Case 2. A 23 year old discharged airman whose history revealed that he became very nervous after discharge, had inappropriate weeping, felt guilty about his religious attitude (as he felt it was inadequate) and began to have a total pattern of seclusion and suspicion. Upon admission to the hospital he was suspicious, resentful, and seclusive. He would be found weeping copiously and when questioned, would have no explanation for the weeping. At his first EST he built up a marked resistance to therapy. He challenged the staff and anyone who attempted to administer any therapy. He was finally persuaded to accept an injection of hydroxyzine. As this patient was a tall, husky individual weighing approximately 190 pounds, he was given 100 mg. intramuscularly. Within 10 minutes the patient had relaxed and was susceptible to suggestion for his treatment. He walked to the treatment room, placed himself in position and received EST. Ten more treatments were given in the same manner. He was sufficiently improved to be transferred to an open ward and in 10 days he went home for a week-end. Upon his return, he showed some agitation which was considered a residual of his former condition. The aforementioned procedure of treatment was used for four following treatments and in two weeks after the last treatment, the patient was discharged in excellent remission and has maintained this state.

Case 3. A white female, 72 years of age, was thin, sparse, undernourished and disheveled. She had manifested an upsetting period of psychotic depressive reaction for 18 months prior to seeing a psychiatrist. Pre-treatment examinations revealed that she had marked arthritic changes of the spine, with some pronounced osteoporosis of the long bones, which was more marked in the lower extremities. Her EKG showed myocardial changes due to age but there was no definite pathology indicating eschemia or infarct. In addition, her psychotic depressive reaction had progressed to the point where she was overly agitated, noisy, and bordering on assaultiveness. Because of the progress of her condition, it was felt that EST was indicated. The osteoporosis was the physical condition causing the greatest concern, since fractures during EST were possible. When she arrived at the appointed time for treatment, she was grossly disturbed and had to be brought in by her three daughters. She was resistive, her pulse was 120, and her respiration 28. She was given 25 mg. of hydroxyzine intramuscularly. Within 10 minutes she became relaxed and there was a reduction of her symptoms. Another 50 mg. hydroxyzine was administered and within 20 minutes her agitation ceased completely. She verbalized, however, in a hostile manner but offered no physical resistance and voluntarily accepted EST. The treatment was uneventful and, after a series of 12 EST, she made an excellent recovery. At this time she is attending her household duties in a manner which the family described as "her old self."

Case 4. A 60 year old white male of excellent intellectual capacity had periods of depression and had received shock therapy over the past 18 years. He was in such a deep depression when first seen that he was inert, had stopped eating entirely, and was being treated for severe fecal impactions. He was carried into the office by stretcher and lay with a glazed, unseeing look and did not respond appreciably to any external stimuli. It was decided that in order for him to survive immediate EST was necessary. He was carried into the treatment room, placed on the table and treatment was administered with no ill effects. After the fourth treatment, he began to eat, verbalize, and display a fearful resistance toward EST. History gained from his wife revealed that prior to his undergoing EST for his previous depressions, he had to be overpowered and, at times, heavily sedated in order to be treated. Her history coincided with his behavior during his fifth treatment. He begged, pleaded, became violent, and threatened suicide if he were to receive any more treatments. He was given 50 mg. of hydroxyzine intramuscularly, which depleted some of the pattern of behavior. A half-hour later an additional 50 mg. was administered. He received his next four treatments in the same manner, with no resistance to treatment. After undergoing EST, he verbalized freely, effected an excellent remission, and

established himself at home and in society. He could offer no reason for his fear of EST. He stated that there had been no pain or anything else to cause this fear.

Case 5. A young, well-built, excited male with schizophrenia of undifferentiated type showed periods of extreme excitement with hallucinatory and delusional material and he verbalized this rich content continuously. He had received a series of electroshock treatments previously and had had a brief remission. He became violent when he learned that he was to have EST and lay down in the hospital corridor, fighting off attempts to overcome his resistance. Finally, with difficulty, 100 mg. of hydroxyzine was administered intramuscularly. He became more calm and received his treatment with a minimum of resistance. He later complained of pain at the site of injection, but examination revealed no evidence of infection or organized mass. Subsequently, because of the complaint of pain, 2 cc. of procaine was mixed with the 100 mg. of hydroxyzine, prior to EST. Results with this mixture were dramatic; every bit of resistance disappeared, he was congenial and entered the room voluntarily.

Case 6. A 28 year old white female developed a severe post partum psychosis. At the time of her first EST treatment, she was a hospitalized patient. Hydroxyzine was not administered and the patient could not be persuaded to accept treatment. When she was brought for treatment the next time, she exhibited all the mental disturbances that were seen during the first visit; 75 mg. of hydroxyzine was administered intramuscularly and she accepted the electroshock treatment withouth resitance. This patient's husband had received several EST's about seven years before and she had been the stabilizing factor in his treatment. Because EST was not as refined as it now is, the muscular contractions and spasms were more severe and pronouced. At this time the wife developed a dread of such treatment. This dread and fear were evident when she was first prsented for EST.

Case 7. An obese white female some 50 years of age, was a candidate for EST because of a severe agitated depression. Hydroxyzine was administered prior to the first two EST treatments and the course was smooth and uneventful. The next time she was presented for treatment, no hydroxyzine was given and she rejected treatment despite extensive persuasion. This patient had a long-standing hypertension and exhibited an arrhythmia at the time of her third visit. A cardiologist was summoned for consultation as to the advisability of carrying out EST. He was reluctant to approve treatment because of a significant hypertrophy of the left ventricle and the possibility of congestive failure. Hydroxyzine was administered and the EST course was smooth and without complications. Upon recovery her pulse was strong and regular.

Discussion

It is the opinion of many workers in the field of psychiatry that the amount of muscle strain, resulting in muscle pain and even fractures, is due to the tenseness and rigidity of the patient prior to EST. The lack of muscle soreness and pain after EST, as observed in this study, is probably the result of the relaxing effect of hydroxyzine.

The majority of patients show an alarm phenomenon. Exceptions are the very depressed, inert, psychomotor retarded patients in depression who are either out of contact or are so depressed at the initial introduction to their treatment that they are totally unconcerned as to what is going on around them. The schizophrenic type of patient who is treated is mostly in the paranoid and catatonic range. Their reaction to EST is displayed in a wide range of resistiveness. The paranoid type of patient who is fearful due to his delusional and hallucinating processes is suspicious, negativistic, and fearful of any invasion into the pattern of illness. In many cases, the resistance is such that it requires several assistants to place the patient into position to receive EST is displayed in a wide range of resistiveance and negativistic attitude of the patient ranges from the above-described inertness to fighting off help of any kind. The latter, because of their condition, may feel there is no help and endeavor to maintain a barrier between their morbid trend of thinking and the help of the therapist. In many cases of the affective disorders, after the fourth or fifth treatment when the patient begins to show some improvement, a great fear of the treatment develops and he may demonstrate extensive resistiveness from pleading to physical demonstration. The administration of hydroxyzine alleviates this situation.

It is certainly a natural phenomenon for a patient to become tense and fearful and display a marked increase in pulse and respiration. Hydroxyzine appears to alleviate the alarm "phenomenon." This has been observed with anxious and tense patients who received oral or parenteral hydroxyzine upon their first visit to the psychiatrist. They are tense, upset and fearful because they have made the step toward the psychiatrist—a step which is an admission that they need help. In most cases, this is a step which they have hesitated to take for a long time.

Summary and Conclusion

Hydroxyzine (Vistaril) was administered intramuscularly as the sole medication prior to 1395 electroshock treatments in 200 patients exhibiting fear, apprehension, agitation or assaultiveness. The patients were diagnosed as affective reactions, schizophrenic reactions or paranoid reactions.

Hydroxyzine was given in doses of 25 to 100 mg. depending on the physical and mental state of the patient. Within a period of 12 to 30 minutes, the patients became more calm, with an alleviation of apprehension, and were more amenable to EST. Hydrozyzine did not alter blood pressure, respiratory rate or pulse. No fractures occurred during EST using the Reiter Electrostimulator and Sedac Machine. Although amnesia was present after EST, the patients were oriented to their surroundings, had a feeling of well-being and were able to leave the office or clinic in about a half hour. There were no complaints of muscular soreness or pain which usually results from EST.

Hydroxyzine appears to be an effective medication to control the fear, apprehension and agitation prior to electroshock therapy and does not increase the hazards of EST as do barbiturate, curare-like or anti-epileptic drugs.

Author's Note: The hydroxyzine (Vistaril) was supplied for this study by the Medical Department of Pfizer Laboratories.

BIBLIOGRAPHY

1. Kraines, S. H.: Mental Depressions and Their Treatment, New York, *The MacMillan Co.*, 1957.
2. Steiner, L., Webb, C., and Adriani, J.: The Preoperative Sedation of Children. Read at the meeting of *Southern Society of Anesthesiologists*, April 23-25, 1959.
3. Ayd, F. J., Jr.: *N.Y.J. Med.*, 57:1742-1747, May 15, 1957.
4. King, J. C.: *Internal Rec. Med.*, 172:669-671, November 1959.
5. Cornbleet, T.: *J.A.M.A.*, 172:56-57, January 2, 1960.
6. Simms, L. M.: *Dis. Nerv. Syst.*, 19:220-222, May 1958.
7. Heller, S. I., and Reiter, R.: *Dis. Nerv. Syst.*, 20: 126-128, May 1959 Supp.
8. Eyres, A. E., Knight, J., and Reiter, R.: High Frequency Electric Currents (Sedac) for Brain Measurements, Diagnosis Therapy. *Dis. Nerv. Syst.*, 20:129-131, May 1959 Supp.
9. Buckman, C., Fenichel, M., Pinsley, I., and Erdos, J. M.: Effectiveness of Various Electro-Stimulative Technics. *Dis. Nerv. Syst.*, 20:79-80, May 1959 Supp.

The Current Role of the Private Psychiatric Hospital

G. WILSE ROBINSON, JR., M.D.

Like many other man-built institutions there seems to be no known date for the beginning of hospitals. It is known that the Temples of Saturn, 6000 years ago, were centers for the teaching of medicine and thus were also hospitals. For centuries the sick were cared for in temples, churches and monasteries by priests, religious orders and groups. We know that these existed in every early civilization because then, as now, there was the strong feeling among the ill that supernatural, and spiritual aids would speed recovery. The sick seek God more avidly than the well so that there has always been this close connection between religion, healing, and the care of the sick.

These close relationships became even stronger with the advent of Christianity with its emphasis on charity, humane respect for all men, and the development of the religious orders dedicated to the care of the sick and the establishment of hospitals. Yet, the growth was painfully slow. Or perhaps we might say there was no need for rapid growth since there were no medical techniques to be practiced in a hospital. Even 250 years ago there were only two hospitals worthy of the name in all of London, St. Bartholomew's and St. Thomas', and 23 major counties in England had no hospital facilities whatsoever.

The demonic possession theory of mental illness persisted long after the concept of sin causing physical illness had crumbled. The mentally ill wandered the streets, byways, and roads, some taking asylum in monasteries and religious centers. The violent were placed in gaol and it was sometimes difficult to distinguish the prisons of the 18th century from the back wards of a 19th century asylum.

Read before the meeting of the Southern Psychiatric Association in Nashville, Tenn., in Oct. 1958.

It is of historical interest that church groups and religious orders, Catholic and Protestant, took little interest in the mentally ill as sick folks needing hospitalization until comparatively recently. Exceptions are the Quakers and a few isolated Catholic centers like St. Joseph's Retreat outside of Detroit, De Paul in New Orleans, and St. Vincent's in St. Louis. There were a few others. But the first private psychiatric hospitals in this country were private enterprises such as Massachusetts General (McLean), Pennsylvania Hospital, The Institute of Living (Hartford Retreat), and Sheppard Enoch Pratt. These early private endeavors offered the only place where true asylum could be obtained. There was no treatment as we know it today, just asylum. The few who could be admitted to these places were fortunate. The vast majority were held in the American version of gaol, alms houses and jails.

When Dorothea Dix interested herself in the pauper insane and set off the chain reaction that lead to the establishment of the state hospital system during the past century, she also set off a side effect, the development of the modern private hospital system because, as state asylums were established, so were private sanitariums, many near a state institution. These organizations, developed two to three generations ago, were the personal projections of men, physicians and neuropsychiatrists, who wanted a place to care for their private patients because beds were denied them in general hospitals. A number were started by taking patients into the doctor's own home. Such was the humble beginning of the Emory John Brady Hospital and my own, the Neurological Hospital. Dr. John Punton established the Punton Sanitarium in 1888 by taking patients into his own home. Soon he built his first sanitarium and then his second. This one my father bought in 1910.

Dr. Punton expressed his ideals in 1937, shortly before he died.

"Unfortunately at this early period there was prevalent in the public mind and even in that of the medical profession a curious sort of antipathy or morbid prejudice with certain forms of nervous and mental disorders.

"As a result, the nature and character of my special practice was misunderstood and greatly hindered the progress of my best efforts to establish a suitable hospital for nervous and mental invalids in Kansas City.

"Confronted with this dilemma, I was compelled for several years to reluctantly receive such patients in my home or place them where they did not belong in the wards of the various general hospitals of the city."

Is it not a condemnation that conditions described by an old man in 1937 expressing viewpoints of fifty years before still are prevalent twenty years after his death? Man changes very slowly.

Today we do not know how many private establishments there are in this country that offer treatment for the mentally ill. As fast as a list is prepared it is out of date. Like all private activities, a few fail and fold up. New ones are established to replace them or to fill a local need. There are over 300 private agencies for the care and treatment of the mentally ill but not that many are real private hospitals. We don't know how many real private hospitals there are. There are several criteria and each comes up with its own figure.

The Bureau of Census has its own list for which it asks each year a report of admissions, diagnoses, etc. But quite a few of the best hospitals do not cooperate in these surveys.

The A.M.A. lists private hospitals, but all those listed are not true hospitals and some true hospitals are not listed. The National Association of Private Psychiatric Hospitals has a very simple criterion for membership, and to us this is the hallmark of a hospital.

"Any privately owned, endowed, or voluntary hospital which has as its primary purpose the study and treatment of psychiatric patients is eligible for membership, provided that said hospital or unit does not receive funds for operating expenses through regular appropriations from city, county, state, or federal legislative or administrative body. This does not prevent a hospital from receiving grants in aid for capital items such as building and equipment, nor does it prevent the hospital from accepting patients whose expenses in the hospital have been authorized and are being paid for by some governmental agency, such as emergency receiving by County Court or Veterans Administration.

"In order to qualify for membership, said hospital must:

"1. Meet certain minimum standards proposed by the Membership Committee to the membership

at the annual meeting and approved by the membership.

"2. The chief medical officer who does not necessarily have to own or be the business administrator of the hospital must be a fellow of the American Psychiatric Association or shall be certified in Psychiatry by the American Board."

There are 128 member hospitals in this association but there are many fine hospitals that do not belong.

The Committee on Standards for Hospitals of the American Psychiatric Association has prepared standards for private hospitals to indicate which hospitals meet minimal standards. These standards are now being widely applied. They are high and failure of a hospital to pass inspection does not mean that the hospital is not a good one. It may fall down in one important category and be approved conditionally, or in two and not be approved at all. Regardless of which list one of these organizations appears in, or if perchance it does not appear on any list, many, many thousands of the mentally ill are admitted, treated, and cared for in private psychiatric facilities each year.

Statistics are boring and we will not ruminate in this area. But there is one figure that should be noted. The Public Health Service lists 309 private hospitals and receives statistical reports from 226 of these. In 1955 these 226 hospitals admitted 76,915 patients, 46,396 first admissions. Let us remember that 83 hospitals, about 27%, did not report, so we might assume that the private hospitals admitted over 100,000 patients that year.

On the other hand, the state hospitals admitted only 169,512. We say only because there are over 30 times as many beds in the state hospitals as there are in private facilities. It should be apparent that if all private hospitals were closed tomorrow it would cost the taxpayers many millions of dollars to build admission departments to care for these patients that are admitted and treated in private hospitals.

We have seen in recent years the growth of psychiatric units in general hospitals. The Public Health Service recognizes 530 and reports from 333 indicate that they admitted in 1955 about the same number of patients as the state hospitals. Those that did not report would have probably raised this figure to a sum equal to both the state hospitals and the private hospitals. Yet the number of beds in these facilities probably is considerably less than in private hospitals.

There are many today who, in their public pronouncements, indicate a belief that private hospitals have no place in our present world, that the psychiatric unit is the key to all private care and that the state hospitals should take care of the others. Bigger and better appropriations are urged constantly to impove the present facilities and to build more. Many of us in our thinking forget that most psychiatric units have been financed 50% with federal funds through Hill-Burton money. On the other hand only a handfull of private hospitals has ever received any federal or state funds for construction purposes.

The private hospitals are a stronghold for free enterprise in the practice of medicine, are taxpayers rather than tax consumers, and provide a great social function considering their relatively small size. Additionally they perform another very important function. The training program existent in these hospitals is frequently overlooked by those who give the impression that they do not wish for the private hospitals to continue in their present form and function. Several score of newly trained psychiatrists leave these hospitals each year, trained at no cost to the taxpayer. This training program is different from that offered in the large government hospitals and in the academic atmosphere. It provides a different viewpoint. It stresses another kind of patient-relative-physician relationship that is not stressed in other teaching units.

In the private hospitals where expenses are paid voluntarily, satisfied "customers" are necessary because all patients are voluntary, even though some are under court order. Some member of the family or a legally appointed guardian arranges for admission for these involuntary patients and has full power to change hospitals and physicians at any time. The private hospital must provide a service that is worth paying for or there would be no customers. The basic principle of private hospitals, that is private practice, is one that is learned with

greater ease in the private hospital than in other situations.

The private hospital as we know it today is in most cases the projection of a physician into a building where he practices his profession in a setting under his complete control. In other words the hospital was as the man designated it. In our generation there have been many of these developed and their ideals, aspirations and works were summarized in an editorial which appeared late in January in the Kansas City Star shortly after my father's death. It could have been said about James Hall, Newdygate Owensby, Guy Witt, Charles Burlingame, C. F. Menninger, and many others.

"Dr. Robinson's Valued Years

"Mental health was far from being the household phrase it is today when Dr. George Wilse Robinson, Sr., opened a hospital for mental and nervous disorders 35 years ago.

"Dr. Robinson, who died last week, was the gruff but kind individualist who fought hard over the years to eliminate the erroneous public sense of shame that often accompanied mental illness. He did much to promote a greater understanding of the aims and needs of psychiatry in the medical profession.

"He was a tall man who gave an impression of great physical strength and that impression was correct. He continued to make his daily rounds in the wards well beyond his 80th year.

"The Neurological Hospital established high standards that stimulated progress in other community efforts. Dr. Robinson was largely responsible for the mental ward at the General hospital, the forerunner of the Psychiatric Receiving Center. Always he played the theme that the cured victim of mental disease was perfectly capable of a return to society. Only a few years ago that idea was new to the general public.

"G. Wilse Robinson, Sr., was a true pioneer who contributed much to his technical field, just as he contributed greatly to the alleviation of human suffering."

In spite of all these assets the private hospital community sank into a defensive position during and after World War II. Under the leadership of the National Association of Private Psychiatric Hospital which re-organized at the Montreal meeting of the A.P.A. in 1949, the private hospitals have gained a voice in American psychiatry which they have never had before. Individuals who worked in private hospitals have made their mark as individuals, but never before has there been a group that spoke with authority for private hospitals, not just the members of the group.

The N.A.P.P.H. has two major projects that interest it at this time. While we recognize that work has been done by the A.P.A. and others on the problem of third party payers, especially Blue Cross, in the care and treatment of mental illnesses, the N.A.P.P.H. has been working diligently for several years and claims the major credit for many positive changes in Blue Cross coverage for psychiatric illnesses, not only in their own hospitals but also in psychiatric units. All that has been accomplished in this field has not come from the direct efforts of the N.A.P.P.H., but the statistics and the material that have been accumulated by the Committee on Third Party Payers of the N.A.P.P.H. have been used as a lever in many areas to increase coverage. That is, those who determine the policies of these payers have been forced to recognize these illnesses as illnesses, rather than demonic possession.

The second project which is now essentially complete has been a joint project of the Central Neuropsychiatric Hospital Association, the N.A.P.P.H., and the A.P.A. These three organizations worked together for several years to develop a set of minimum standards for private hospitals. The original draft was developed by the C.N.P.H.A., approved by the N.A.P.P.H., and accepted almost verbatim by the Committee on Standards of the A.P.A. These standards are now official criteria for inspections of private hospitals.

In summary we recognize that the private hospitals fulfill a very important place in the socio-economic life of the mentally ill of the United States. The private hospitals are a stronghold of free enterprise in the total medical field and especially in the practice of psychiatry. The private hospitals provide training centers which stress the private practice of psychiatry without depending on tax money to finance their programs. The private hospitals have in the past worked diligently towards self-improvement and will continue to do so working towards better facilities and better therapy through self-criticism and research.

2625 W. Paseo, Kansas City, Mo.

A PANEL ON NEUROSIS FOLLOWING A TRAUMA*

INTRODUCTION ..... *Gene L. Usdin, M.D.*
REVIEW OF STATISTICAL STUDIES ON NEUROSES FOLLOWING TRAUMA .... *Jay T. Shurley, M.D.*
THE DYNAMICS OF NEUROSIS FOLLOWING TRAUMA ..... *Philip Q. Roche, M.D.*
EMOTIONAL DISTURBANCE IN PERSONAL INJURY CASES ..... *Clarence Morris, LL.M.*
CONFLICTING TESTIMONY ABOUT POST-TRAUMATIC NEUROSIS ..... *Henry A. Davidson, M.D.*

Introduction

GENE L. USDIN, M.D.

Emphasis by psychiatrists on the problem of criminal responsibility has caused significant neglect of many areas of forensic psychiatry. One of the foremost of these is the relationship of neurosis and trauma. Certainly the problems inherent in an ethical and scientific determination of criminal responsibility are important. Most psychiatrists find fault with M'naghten's rule and favor criteria similar to the New Hampshire law or those established in the Durham case. It is practically a vogue for psychiatrists interested in legal psychiatry to devote their major emphasis to a crusade in this area. If forensic psychiatry is not to remain the bastard product of a compulsory marriage, it should pay careful attention to all areas wherein psychiatry and the law meet. Also psychiatrists should be the first to appreciate that there are destructive factors in society other than those which the law specifically prohibits.

Little thought has been given to the problem of neurosis following trauma. This is surprising in view of the fact that personal injury litigation is coming to assume great proportions and to present exceedingly frightening aspects from a legal, economic and social scientific viewpoint. What thought psychiatrists have provided in this field has emphasized that laws governing personal injury, insofar as psychiatric aspects are concerned, are generally unhealthy and frequently productive of more harm than good. Many psychiatrists participating in this area realize that they are involved in a basically unhealthy situation in that the availability of compensation for neuroses following trauma can be the causative factor in the precipitation of overt incapacitating symptoms. Many believe that giving this neurotic mechanism value, in turn, gives the patient a greater chance of having further or additional neurosis. The importance of the neurotic diathesis in the precipitation of an overt neurosis is well recognized.

We must recognize the semantic difficulties within the law which frequently overlooks the physician's delineation of terms and conditions and adheres to its own, as with the terms "sanity" and "insanity." Such is also frequently the case with the term "traumatic neurosis." When symptoms become apparent following trauma and the psychiatrist states that a neurotic condition is present, courts usually term the condition "traumatic neurosis" even though the psychiatrist may have emphasized that the symptom is a conversion neurosis. The law finds it difficult to realize that traumatic neurosis is a specific disease entity.

Present laws which overlook the importance of the diathesis are largely responsible for psychiatrists too frequently being placed in an unfavorable light. They are pictured as strongly favoring too much compensation, when in reality most psychiatrists believe compensation for neurosis is dangerous and that *changes* in the administration of compensation are in order.

Legal authorities as well as physicians are becoming concerned regarding the extent of personal injury litigation. There has been a particularly large increase in the number of cases based on neurosis following trauma, and there is good reason to believe that this increase will continue unless serious thought is afforded the problem. The potential of harm to our economic way of life as well as to the individual involved should be carefully evaluated.

Recently some theories regarding aspects of compensation and subsequent neurotic disorders have become more crystallized and some older concepts discarded. Certain thought cliches regarding the effects of compensation for neurosis following trauma have had doubt cast upon them.

The purpose of this panel will be to understand better specific psychodynamics in the development of the neuroses that become evident following trauma, to explore the legal status of these conditions and to give attention to the differential diagnosis and therapy. In no condition is the differential diagnosis more difficult and therapy so relatively ineffective. Certainly it is clear that more emphasis, research and thought must be given to this neglected subject.

*The articles in this section were read at a Panel of the American Psychiatric Association Meeting, April 30, 1959, and constitute a symposium on neurosis following trauma.

3432 Prytania St., New Orleans, La.

Review of Statistical Studies on Neuroses Following Trauma

JAY T. SHURLEY, M.D.

The phenomena referred to as neuroses following trauma may be, and probably are, as old as the central nervous system itself, but, as Huddleston[1] states, "the ancients were no encylopedists, and, if neuroticism or psychopathy but fell short of coma or violence, it was viewed as nothing unusual." Recognition and terminology have varied, and still vary, greatly with culture and the times.

It seems clear that Hippocrates and the ancient Greek physicians recognized these states. In more modern times, Abercrombie in 1828, and Brodie in 1837, wrote of cases of hysterical symptoms following injury. It remained, however, for the Civil War in the United States to evoke "the first full length portrait of the traumatic neurosis" (Garrison). This was painted by Philadelphians: surgeons DaCosta, Keen, and Morehouse, and neurologist S. Weir Mitchell in their writings on nerve injuries. Actually, the problem was termed and conceptualized variously, for example, "nostalgia" and "irritable heart of soldiers," but it clearly represented neurotic manifestations following injury. These ideas led directly, if unhappily, to the "neurocirculatory asthenia" "effort syndrome," and "shell shock" concepts of World War I. Pensions and compensation were granted on this basis.

A second line of development of the concepts of neuroses following injury and the practice of compensation was pictured in Erichsen's book on "Railway Spine" published in 1875. Subsequent development of Workmen's Compensation laws around 1912-14 added impetus to the compensation aspect of the syndrome. Oppenheim, in 1885, is credited with introducing the term "traumatic neurosis," but gave it an exclusive organic connotation. Charcot, however, was impressed with the resemblance to the cases of hysteria he saw, and insisted upon a purely psychogenic origin of the symptoms.

So the lines were drawn and the matter launched upon a sea of controversy and obscurity which has swelled steadily to this day. For those interested in the medical literature, with some reference to the legal literature, the best reviews are Huddleston's book, "Accidents, Neurosis, and Compensation," published in 1932, and Pokorny and Moore's[2] review article "Neuroses and Compensation."

Denker, in 1939, studied 1000 consecutive cases of disability claims due to psychoneuroses presented to one insuror (The Equitable Life Assurance Company), of which he was medical director. All had received some form of monthly payment for disability. Of the 1000 cases, he threw out 293 (29%) as being erroneously diagnosed. Of this number 143, or about one-half, were actually psychoses, in his view. Of the 707 remaining cases, 45% terminated disability (and compensation) within one year; 72% two years, and 10% remained disabled after five years.

Of the 10% who remained disabled, 23% were receiving maximum amount (over $200 a month). Statistically, after the third year, the rate of claim persistence was almost constant, leading Dr. Denker to conclude, "compensated neurotics receiving $200 per month or more for over three years never recover."

He also reported a very small study to determine the effects of lump-sum settlements. The Company re-purchased the disability claims of 15 claimants. As a result (?) five showed no clear evidence of "benefit," seven showed "distinctly good recovery," three showed persistent disability and no benefit, or more complaints.

From this small group, however, he concluded:

1) That younger men (under 40) respond better to lump sum payments.

2) That the shorter the duration of claim before settlement, the better chance of recovery. (Five of the seven recovered had lasted over 18 months, however.)

3) That the amount of disability income is less important than the above.

It seemed clear, from Denker's study, that

From the University of Oklahoma School of Medicine, and Psychiatry Service, V.A. Hospital, Oklahoma City.

tangible compensation of neurotically disabled was not always good treatment, and, if doled out monthly over prolonged periods, could lead to chronic invalidism. Neither, however, did lump-sum settlements provide a cure in every case. The matter was fraught with further problems.

The "Follow-up Study of the Psychoneuroses" (of World War II), by Brill and Beebe,[3] was published in 1951. From the more than 600,000 discharged veterans of World War II, tagged "psychoneurotic," they culled a "representative sample" of 966; 62% were re-examined by a psychiatrist and 98.5% were followed up five years after the end of World War II.

I will enumerate a few of their reported findings:

1) There was agreement on original diagnosis in approximately 90% of cases by the re-examining psychiatrist five years and more after original diagnosis was made.

2) The large majority of cases (42%) resulted from combat stress; the next largest (14%) category arose from severe frustration due to military exigency, not combat-like isolation, climate, prolonged service overseas, etc.

3) In 52% breakdown occurred overseas; in 35% in the Continental U.S.

4) At Follow-up:
   45% had no remaining disability
   27% had slight disability
   20.4% had moderate disability
   7.5% had severe disability (not hosp.)
   0.6% were totally disabled, but not necessarily in the hospital.

5) Compensation for disability:
   53% received *no* compensation
   42% received under $60 per month
   5% received more than $60 per month

6) In the *opinion* of the examiners, of the 47% who drew compensation the compensation had ill effect in 19%, helpful effect in 18%, no effect in 63%. Conversely, in the 53% not receiving compensation it was considered that in 6% the effect (of no compensation) was harmful, in 12% it was helpful, in 82% it made no difference.

These statistics speak for themselves. What the picture has been on V.A. compensation for neuroses following the Korean campaign, I have not been able to determine precisely. I do have the distinct impression, based on first-hand familiarity with the situation, that the gross and relative incidence of neurotic disability was considerably less from Korea, and the claims for compensation relatively fewer in number. Certainly, the military management of psychiatric casualties from Korea was sensitive and attuned to achieve maximum effectiveness in the prevention of occurrence or fixation of neurotic disability. The gains achieved by good medical management, however, were sometimes offset by subsequent offers or awards of tangible compensations, with some unhappy consequences in individual cases.

These two studies, now rather far in the past, do not give us much to get excited about—they merely represent the best examples of statistical studies we have at hand, and point out our great need for more up-to-date and even better executed studies in each of the areas where injury, neuroses, and compensation come together. In fact, it was my hope to be able to gather some "hard core" data to substantiate the clear impressions I, and others on the Committee on Psychiatry and the Law, have that there is now a swelling number of civil litigations involving personal injury where neuroses and neurotic symptoms are manifest, and persons are awarded increasingly large sums in damages and compensation. While I believe this to be the case, I have not been able to ferret out the facts and statistics.

BIBLIOGRAPHY

1. Huddleston, J. H.: Accidents, Neuroses, and Compensation. *Williams and Wilkins,* Baltimore 1932.
2. Pokorny, A. D., and Moore, F. J.: "Neuroses and Compensation." Part 1, Reyiew of Literature. *Archives of Industrial Hygiene and Occupational Medicine,* 8: 547, December 1953.
3. Brill, N. Q., and Beebe, G. W.: *Am. J. Psychiat.,* 108: 417, December 1951.

The Dynamics of Neurosis Following Trauma

PHILIP Q. ROCHE, M.D.

A discussion of the dynamics of neurosis following trauma involves many definitions. We may regard neurosis as a kind of human communication having the meaning of a physio-psychologic defense against anxiety. The term anxiety refers to the inner tension pattern acquired in early life development, induced by stimulation of the organism at a time when it is without sufficient means of mastering intense states of reactive excitation. This excitation is a precursor of what the organism experiences as anxiety. We observe the spells of crying and raging of the infant and from these we infer the existence of painful tension states. We also observe that various mothering practices are efforts to alleviate such tensions lest they become in continuity chronic patterns, fixed, automatic, repetitive and in time less and less in the adaptive service of the individual. In a restricted sense, anxiety may be considered the recurrence of the unmastered painful excitation and in this light we recognize how each person contrives his resources of defense against it. The measure of unmastered reactive excitation produced by the stimulation of the organism defines trauma. This is to be distinguished both from the stimulation itself and from the mode of re-adaptation to it. This definition requires several qualifiers: (1) The amount of stimulation, (2) the kind of stimulation (physical, verbal), (3) the age of the subject, (4) the duration of the stimulus, (5) the time required for homeostatic or "steady state" recovery, and (6) the influence of the culture.

The amount of stimulation varies from minimal to that which is so overwhelming as to cause death of the organism. With time and duration variables, related to the quantitative variable, we observe a wide spectrum of events and of human response to traumatic experience—in itself the experience of being alive. In this respect we are reminded that trauma is not restricted to physical events but includes psychological events as well. Dr. Harold G. Wolff states, ". . . the impact of man upon man may be as seriously traumatic as the assaults of micro-organisms, climate, chemical and physical forces. Disruptions, hindrances and threats stemming from the interaction of man and man both singly and in groups, evoke (physical) responses which are indistinguishable from those set off by other involuntary forces." To this may be added a further observation of the chronic state of alertness without motor release reflecting the tensions of modern life.

From the foregoing we may regard neurosis as a complementary expression of non-assimulated trauma viewed within a frame of description, namely, the range of symptomatology which within the changing values of our culture is regarded as pathological. Any external stimulation impinging upon the organism can be regarded as traumatic if the organism fails to master it completely and quickly and in so failing carries thereafter a souvenir of it expressed in both physical and psychological disability. In this light we can conceive that all experience and growth is relatively traumatic.

The simplest form of mental illness is a traumatic neurosis in which the overwhelming external stimulation, that is, actual physical injury or momentary threat of it, reproduces a recurrence of helpless exposure to intense painful excitation, against which the organism reacts to remove it and regain homeostasis. We observe the train of symptoms after trauma: (1) The blockage of ego functions, (2) the emergence of involuntary emotional discharges, including anxiety and rage, (3) sleep disturbance with repetitive dreams, (4) mental preoccupation with the traumatic event, and (5) secondary complications.[1]

We think of ego blockage as actually a mustering of available energies placed in the service of mastering the intruding excitation; little is left for other ego functions. This is generally associated with the reduction of perception, an equivalent of blocking of further excitation. Higher functions are likewise reduced and we observe the traumatized person tending to a regressed statio of the child who may look to "omnipotent

grown ups for help. Failure of mastery by active means may witness a regression to a passive-dependence, often with an oral quality, especially in those whose life pattern has been passive.

The involuntary emotionality of the traumatized person has an archaic quality associated with restlessness and irritability which we can often tie to underlying anxiety and suppressed rage.

It is apparent that an organism flooded with excitation cannot relax. Sleeplessness is a main disability, and the active repetition of the trauma in dreams imparts to sleep a quality of sleeplessness, yet makes sleep possible. The re-enactment of the trauma in both sleep and waking life gives us a glimpse of the primary function of the archaic ego which masters the outer world by active repetition of what it has experienced passively. This is a mode of mastery which in time attempts to acquire more and more control and binding of the excitation.

To fully understand the so-called neurotic complications of trauma, it is necessary to consider that every person carries with him certain defenses against instinctual energies which remain out of view so long as no excessive stress is imposed. Many such persons manage to remain relatively well even at the expense of some personality impoverishment. In them traumatic events may precipitate neuroses which have the meaning that the pre-traumatic defenses have been attenuated and new defenses, usually regressive, have been substituted. Thus, we may consider that many traumatic neuroses are actually precipitated psychoneuroses, and in these we may observe a disproportion between the trivial traumatic event and the ensuing severe disability, and indeed this observation has pertinence in questions of compensation. Larval neurosis, precipitated by trauma, manifests either more anxiety or more repression. The cost is heavy in either case. For example, some persons hang onto the belief that fate protects them, as their parents did. In them trauma is felt as a betrayal. The loss of the powerful protector will be measured in the degree to which the individual had already shaped his world view within a passive-receptive pattern. The effect of castration anxiety may be manifold in cases of physical trauma, and instances are known of such anxiety following surgical operations for which the individual was not psychologically prepared. This is seen often in children.

In extending our observations we come upon a curious phenomenon in which we discover that trauma is an unconscious temptation. We relate this to certain persons with distorted sex instinct, who enter into dangerous and "thrilling" events. The more dangerous, the greater prospect of the reality of sado-masochistic fantasies. Here is a mixture of temptation and punishment, within the concept of Menninger[2] who places the traumatic neurosis in the second order of ego stress regulatory devices in which the individual withdraws semi - realistically through offering a sacrifice by choice of lesser evil and substitutes the self or part of the self as an object of displaced aggression. We observe this in clearer outline when trauma precipitates super ego conflict in which the individual lives out a kind of internal justice imposed as a deserving punishment for guilt. The foregoing refers to primary gains.

Secondary gains occupy much of our interest in the traumatic neurosis. If it is an expression of ego contraction and regression, we could expect that secondary gain would emanate from the more archaic ego which is attempting recovery. Thus, a secondary gain is merely an expression of the ego station of the child which reaches out for support. This is expressed also in the modalities of love and security. The uses to which the traumatized ego puts its disability may have no direct incidence with the trauma itself, but be invisibly linked to other sources of conflict in current life. Thus, one may observe that others around the patient may be playing roles affecting him, but satisfying their own unconscious needs. Here is a complementarity. I recall one instance. The patient's wife found in his neurosis a fuller expression of her own needs to dominate, control and nurse, which in turn held fixed his dependent passivity, under which lay a hostility balanced only by his suffering.

Money is equivalent to love and protective security and it is not otherwise in meaning as compensation for neurotic suffering. Da-

vidson remarks that Workmen's Compensation is a small dole which is a token security symbol, made up for by others around the invalid by care and attention.[3] Within the interstices of this *modus vivendi* lie deeper motives of indemnification and of the squaring of accounts with the corporate employer from whom tribute is exacted. Indeed, in similar paths, this motive of exaction reaches others, and in this the invalid uses his disability as a hostile means of controlling his entourage.

Our culture compensates its warriors and in this is implied an acceptance of traumatic neurosis and disability. Our legal conventions of tort liability have a background in the primitive talion principle of private vengeance and the blood feud, in time mollified and replaced with compensation equivalents in money terms. In place of the feud, injuries can be paid for and in an equalitarian society this achieves a leveling of social tensions. Fear and insecurity can be compensated as well as actual physical disability. Today, legal policy is reaching the position that words alone can produce compensable "states of mind" and this tendency alerts us to the traumatic power of words.[4]

Route #1, Conshohocken, Pa.

REFERENCES

1. Fenichel, O.: The Psychoanalytic Theory of Neurosis. *W. W. Norton & Co., Inc.*, N. Y., 1945, p. 118-121.
2. Menninger, K. A.: *J. Am. Psa. Assn.*, 2:280, 1954.
3. Davidson, H. A.: Forensic Psychiatry. *Ronald Press*, N. Y., 1952, p. 62.
4. See Magruder, C.: Mental and Emotional Disturbance in the Law of Torts. *49 Harv. L. R.*, 1033-1067, 1936.
McNiece, H.: Psychic Injury and Tort Liability in New York, *24 St. John's L. R.*, 1-, 1949.

Emotional Disturbance in Personal Injury Cases

CLARENCE MORRIS, LL.M.

The common law of the last century cocked a skeptical eye at claimants seeking damages for illness consequent to fright or upset. The classical case is *Mitchell v. Rochester Ry. Co.* (151 N.Y. 107, 45 N.E. 354, 1896) in which a pregnant woman proved that while she was boarding a horse car she found herself trembling between the heads of the car's mismanaged team. Her evidence tended to show that she fainted and thereafter suffered a miscarriage. Her medical expert testified that her shock could have induced abortion. The court, nevertheless, dismissed the suit. Martin, J., who wrote the opinion, said that if emotionally caused ills were compensable "injury . . . may be easily feigned without detection and . . . damages must rest upon mere conjecture or speculation. . . . A wide field would be opened for fictitious or speculative claims." All courts developed some exceptions to this rule, but it is often followed today when negligence results in injury without impact. Other state courts, however, have developed more confidence in medical testimony on diagnosis, etiology, and prognosis. They allow damages in these cases on adequate proof. This principle extends to neuroses sequent to fright. For example, in a 1933 Louisiana case (*Klein v. Medical Bldg. Co.*, 147 So. 123, La. App. 1933) a doctor sued the landlord claiming he was disabled by neurosis caused by fright when plaster fell off his office ceiling. His medical witnesses testified that mental illness resulted from his scare, describing his symptoms, admitting absence of organic injury, and stating their difficulty in ruling out malingering. Defendant's experts contradicted the diagnosis; one of them further testified that even if the diagnosis was correct, the claimant was neurotic before his scare and his symptoms were only outward manifestations of a pre-existing condition. The jury believed the plaintiff's experts and rendered a verdict in favor of the plaintiff for $3,850, which, however, the court reduced to $1,000 and held that the law permitted a recovery even though plaintiff suffered no bodily impact. (See also *Sutton Motor Co. v. Crysel*, 289 S.W. 2d 631 Tex.

From the University of Pennsylvania School of Law.

Cv. A. 1956.) In some states courts still will not allow recovery in this sort of case. (See e.g. *Koplin v. Liggett Co.,* 322 Pa. 333, 185 A. 744, 1936, in which a diner in a restaurant made ill by seeing a centipede in her soup was denied compensation.)

However, all of the common law courts have long taken the view that disability and suffering proximately caused by negligent bodily impact is compensable. The term "traumatic-neurosis" is probably not very old and pre-20th century claimants were little likely to press for damages resulting from mental disorder. But I do have a 1913 case in which the victim of an automobile-street car collision, thrown out of her car, dragged, scratched, bruised and shaken up, offered proof tending to show she was disabled by what her expert witness called "traumatic neurasthenia." A jury rendered substantial verdict in her favor. The defendant attacked it on the ground that such an ill was not compensable. The court thought otherwise. Nearly all courts would agree. (See, e.g. *Meyer v. Johnson,* 224 Mo. A. 565, 30 S.W. 2d 641, 1930, in which the court approved a jury charge allowing an award for neurosis consequent to a hernia; in *Orth v. Wickman,* 190 Minn. 193, 251 N. W. 127, 1933, the court approved the trial judge's refusal to charge the jury that a claimant with a ruptured kidney could not recover for consequent traumatic neurosis.)

I have found only one modern case in which judicial skepticism about all traumatic neuroses is given vent. In *Norten v. U.S.* (110 F. Supp. 94, 1953) a federal trial judge (because the government was defendant) had the jury's job as well as his own. The claimant proved she was in an automobile accident resulting from a Navy driver's negligence. Her head was oscillated violently. Before the accident her upper spine had become seriously calcified but had not been bothering her. Thereafter she suffered severe arthritic pains and (her proof tended to show) developed a serious neurosis. Government medical witnesses testified she would improve after the litigation ended. The judge was convinced that the accident produced arthritic pain and awarded her $5,000. However, he said, "Traumatic neurosis is not an injury for which substantial damages should be awarded. It would open too wide a field for false and fraudulent claims." He attributed his award to arthritic sequelae of the accident. Though modern courts have viewed skeptically attempts to prove neurosis, no other court has ruled out damages for all injuries of this type.

Etiology of neurosis is important in personal injury suits. Neurosis following trauma is not enough; there must also, in some sense be causation. Claimants' proof that defendants are responsible for their mental ills is especially compelling when predicated on serious physical injury. Perhaps most convincing is proof of head injury. In one case, for example, an automobile collision victim who was well and agreeable before an accident, suffered head injuries. He could be controlled in the hospital only by putting him in a strait jacket and soon afterwards was committed. His doctors testified that his injuries resulted in incurable post-traumatic psychosis. The defendant's medical witnesses' diagnosis was schizophrenia; they said his mental ills were not likely to have resulted from his injury. The jury preferred the theory advanced by the claimant and the $25,000 verdict withstood attack. (*Bysczynski v. McCarthy Freight System,* 129 Conn. 118, 26 A. 2d 853, 1942.)

A neurosis that occurs consequent to an amputation may be convincingly proved to result from the amputation. (*Rice-Styx Dry Goods Co. v. Seef,* 20 Tenn. App. 498, 101 S.W. 2d 132, 1937.) Sometimes there is no dispute that a claimant is suffering from a mental illness that resulted from an organic cause but dispute centers on the causal relationship between the defendant's wrong and the organic ill. In *Hoffman v. St. Louis Public Service Co.* (255 S.W. 2d 736, Mo. A. 1953) a female passenger was injured while boarding a bus. Thereafter an ovary had to be removed. Her expert testified that this procedure resulted in neurosis. The line of the bus company's medical proof was calculated to show that the need for surgery arose out of causes other than her fall. Had this proof been credited (which it was not) the jury could not properly have awarded damages for the neurosis.

One type of case that puzzles experts is that of co-mingled multiple cause. In its sim-

plest and least bothersome form the causes of neurosis are virtually simultaneous. For example, in *Greenberg v. Stanley* (51 N.J. Super. 90, 143 A. 2d 588, 1958) a runaway car struck a mother with her baby. The child was killed. The mother suffered back injuries and head lacerations. Her expert testified that the episode produced a severe functional psychoneurosis. On cross-examination he said that the child's death contributed to her mental illness, but that her neurosis was also a product of "the accident, the injury, the whole constellation." Now the law is clear that she is not entitled to recover damages for her grief alone and the court so instructed the jury. The $27,500 verdict, however, clearly implied that the jury had made a substantial award for her mental illness. The award was affirmed on appeal, the court holding that when causal strands cannot be separated in fact they need not be separated in law.

More difficult are cases in which a claimant in poor mental health suffers an aggravating personal injury. In *Taylor v. Pole* (16 Cal. 2d 668, 107 P. 2d 614, 1940) a 50-year-old woman sustained bruises and contusions, a bump on the forehead, and severance of the peroneal nerve in one leg in an auto accident. In childhood and adolescence she had had several hysterical episodes; as an adult her mental health had been better but far from perfect—she had ulcers and two years before the accident had been in a coma for five days. Her proof tended to show that following the accident she had many disabling and serious symptoms of neurosis. It was almost impossible to say just how much of her post-traumatic mental illness was caused by the accident. The jury, instructed to give nothing for neurosis unless proof divided the indivisible, followed the former course. The appellate court held the instruction improper and returned the case for a new trial with direction that the jury be instructed to consider compensation for aggravation of plaintiff's mental disease.

This does not mean that juries are always turned loose to reach super-generous results. In *Cincinnati Ry. v. Ross* (212 Ky. 619, 279 S.W. 1075, 1926) evidence of physical impact was slight, plaintiff's own testimony of pain and immobility was unconvincing, his post-accident professional and recreational activities were proven vigorous and convivial, and his expert was merely willing to say, "He seems to suffer from what doctors term a traumatic neurasthenia." The appellate court ruled a $10,000 award excessive and ordered (on that and other grounds) a new trial. At the second hearing the jury on virtually the same evidence was even more generous and awarded $12,000. The court again ruled the verdict excessive and reversed. (219 Ky. 824, 294 S.W. 460, 1927.)

A curious factual connection between trauma and neurosis is illustrated by *Fossler v. Blair* (90 F. Supp. 574, D.C. S.D. Fla. 1950). The claimant was severely shaken up in an automobile accident caused by the defendant. Ten years earlier she had had a kidney ailment persisting for five years but which was cured. After the accident she suffered pains like those resulting from her kidney disorder and formed the belief that these pains were brought on by the accident. The defendant called her own physician and he testified that she never told him about the accident and that she had no kidney injury. Other medical testimony showed virtually conclusively that her pains were caused by gall-bladder troubles unconnected with the accident. The court was convinced that she genuinely believed that the accident produced a kidney ailment and that as a result of that belief she had been a semi-invalid ever since the day of the accident. In the curious sense that the accident fated her to suffer a neurosis that she might have been spared had she not been involved in the accident, the negligent driver "caused" her injury. However, the law of tort liability is not so tied to fate that responsibility reaches this far.

Conflicting Testimony About Post-Traumatic Neurosis

HENRY A. DAVIDSON, M.D.

The root problem of post-traumatic neurosis is (a) whether the person has a real disability, and (b) whether it can be honestly charged to the accident. Obviously, a lawyer will not put on the stand for the claimant a doctor who will not say "yes" to both questions. And the defendant's medical expert will either deny the reality of the disability or he will assert that other factors were responsible.

This difference of opinion is sometimes viewed as evidence of venality. This is an unfair conclusion. Both views are honestly defendable. It is true that psychoneurosis has its roots in childhood conflict. Therefore, the defense can make a good case for denying liability. And it is true that a trauma can precipitate a neurosis out of a pre-existing precarious emotional balance. Therefore the plaintiff can make out a good case for charging the disability to the accident.

The cynical view is that the doctor will testify for whichever party pays him. Actually, the doctor will testify to what he believes. We have claimant-oriented physicians and defendant-oriented ones. A claimant-oriented doctor believes that the plaintiff generally gets a bad deal. He has to match his slender resources against the magnificent resources of a large insurance company. He can't afford to pay big fees for medical experts whereas the insurance company can and does. Thus, the doctor who sees it this way, identifies with plaintiffs. When he testifies that there is substantial disability here, he calls it as he honestly sees it.

The defendant-oriented physician believes that many claimants are fakers. He thinks that people exaggerate their disabilities. He deplores the fact that we live in a disability-conscious, security-hungry culture. He says that the claim is often an effort to express hostility to the employer or tort-feasor. He thinks that money will rapidly cure the disability.

Lawyers soon learn which doctors have which orientation. Naturally, the attorney selects the doctor whose views are favorable to his side. This produces the spurious picture of conflicting testimony. Carelessly viewed, this seems as if one of the doctors is corrupt. Actually, all it shows is that one of the doctors is human.

In a sense, the opposing doctors are examining different patients. The plaintiff-selected physician starts off with a good rapport. He is the helping doctor. The patient trusts him. The defense physician is seen as an enemy. He is the doctor who is going to hurt. This examination bristles with hostility. The first physician gets the picture of a sincere, friendly soul. The defense doctor sees a surly and suspicious one.

Why are some doctors plaintiff-oriented while others are so misanthropic as to believe that every claimant is a faker? Part of the reason is buried deep in the life history of the doctor. Part of it is an artifact produced by the kind of practice the doctor gets into early in his career. I doubt if any of it is the result of objective scientific study.

A class-mate of mine was the son of a shop steward in a large industrial plant. He was taught to believe that workers were all innocent gentlemen being ground down by mercenary and greedy employers. This philosophy colored his whole life. He went into orthopedics and through his wife's family, he had a contact with a large carrier of workmen's compensation insurance. They began sending him their work. It was much to the interest of my class-mate to take a defense viewpoint. The insurance company was paying him large fees. The general atmosphere was one of cynicism towards workers' claims. Yet this doctor was making more extensive evaluations than those of the claimant's doctor. In spite of his own financial interest, he was totally unable to become defendant-oriented. He was the captive of his lifetime of feeling on this subject. He soon settled down into a claimant-oriented attitude and is now testifying largely for plaintiffs.

A few days ago I had luncheon with a

P.O. Box 500, Cedar Grove, New Jersey.

dermatologist. He was the scion of a wealthy family, a man who lives in an exclusive suburb, belongs to the best clubs, and believes firmly that low-income people are either fools or rascals. He complained of a lawyer who was trying to get substantial damages for a worker who had developed an eczematous rash. The worker was sensitive to gasoline. Near gas fumes, the rash became terribly severe. "But," said my dermatologist friend, "just take him away from gasoline, and his skin was like that of a new-born baby." I learned that the patient was 48 years old—and an oil chemist. I suggested that a 48 year old chemist who couldn't be near oil or gas fumes was very severely disabled if his specialty was gasoline. The dermatologist couldn't see it. All he had to do was take up another branch of chemistry. This doctor is honestly and immovably of the opinion that this worker has no disability.

The field of psychoneurosis particularly lends itself to these differences in viewpoint. The defense-oriented doctor makes a fetish of objectivity. Prove the psychoneurosis by objective findings, he insists. He pooh-poohs the influence of fright or other emotions. He clings to the old legal doctrine of "no impact—no injury." Since psychoneurosis is invisible, it is non-existent in his philosophy. Only the visible scars count. The claimant-oriented doctor argues that anxiety, invisible though it may be, is a potent force; that emotional trauma can produce severe disability.

Both are right. There is no absolute truth. I deplore the modern tendency towards looking for an impartial expert to solve the dilemma. This is a tempting solution. If the doctors disagree, why not get a third, impartial physician to give us the real answer? I think it would be a mistake. No matter how he is selected, the third doctor would also be human and would have his point of view. Only now he would wear a halo and his word would be taken as gospel by judge and jury because of the halo of impartiality. Medical conclusions—certainly psychiatric conclusions—are not absolute truths awaiting to be revealed by chosen experts.

I prefer the present adversary system. Let each side call an expert who honestly has the viewpoint that he expresses in court. Because he believes it, he will defend it with eloquence and vigor. Let the judicially trained mind listen to the testimony and decide which reasoning is correct. Remember, a non-partisan expert stultifies the testimony of a partisan expert. In effect, this would deny one side or the other of the right to have witnesses heard on his behalf, because the impartial expert now wears invisible judicial robes.

Is the doctor lying? No, he is not—he is presenting a defendable viewpoint. We do not need a lie-detector here, because the Truth itself is not a simple fact-of-life waiting for revelation. And if we do need such mechanisms, then I think that the best lie-detector is vigorous cross-examination.

Book Review

PROGRESS IN NEUROBIOLOGY: IV, THE BIOLOGY OF MYELIN. Edited by Saul R. Korey, M.D., Hoeber-Harper, Medical Book Department, Harper & Brothers, 49 East 33rd Street, New York 16, N. Y. 1959. xxii and 405 pp. Price $9.50.

This volume, number IV in the series, "Progress in Neurobiology," is devoted to what for many years has been an important concern of students of the nervous system. Very early it was recognized that the lipid content of brain was uniquely high. Anatomical studies of the central nervous system and peripheral nerves defined the area of high concentration of fatty substances as a sheath which surrounded certain nerve tracts, while pathologists inferred its essential role in normal nerve function by demonstrating a correlation between some neurologic disorders and the degeneration of this sheath.

This modern and excellent review of myelin concentrates on 1) its microstructure, 2) its morphogenesis, 3) its chemical composition, 4) its biosynthesis, and 5) certain pathologies which involve change in the myelin sheath.

Unexpectedly, perhaps, these intensive and detailed studies, employing sophisticated instruments and techniques, such as electron microscopy, tissue culture methods, and modern biochemical procedures, do not support the older concept that myelin is unique to nervous tissue. On the contrary, because of its high concentration in nervous tissue, the study of myelin has made it possible to understand something of the chemical character of all cell membranes.

The myelin sheath is shown to be an elaboration of the double plasma membrane of the schwann cell (see papers of Schmitt, Luse, Held and Murray); even this property of elaboration and layering of the plasma membrane appears to be shared, though to a lesser degree, by cells from other tissues, e.g. kidney and salivary gland cells (see paper of Porter); the chemical composition of the membrane seems indistinguishable from mebranous portions of other cells (see paper of Folch, et al., Karnovsky, et al., and Rapport); the lipid biosynthetic mechanisms of the Schwann cell are shared by other cells (see papers by Kennedy, Rossiter); and the overall metabolism of the Schwann cell seems remarkably like that of other cells (see papers of Koenig, Rossiter and Elliott).

Clearly, the special function of myelin in neurophysiologic mechanisms is not obvious from the investigations conducted so far into its morphology, chemistry and its biochemistry. Future research must concentrate on the new physical, chemical and perhaps enzymatic properties which derive from the sheer amounts and specific organization of the plasma membrane materials which is myelin. This future work will be, however, firmly based on the researches which have been so well reviewed in this volume.

Malcolm Gordon, Ph.D.

Hartford, Conn.

THE UNIVERSITY OF MICHIGAN MEDICAL CENTER
Postgraduate Course in Clinical Neurology
University Hospital - Ann Arbor, Michigan
APRIL 18 AND 19, 1960

This course deals primarily with those neurologic conditions and complications most frequently encountered by the practicing physician. The principal neurologic entities as well as the complications of systemic disease that constitute diagnostic and therapeutic problems are stressed. Both the pediatric and the geriatric aspects of nervous disease will be discussed. Differential diagnosis, special diagnostic procedures, and newer aspects of therapeutic approach will be presented.

Program and application form may be obtained from
JOHN M. SHELDON, M.D., Director
Department of Postgraduate Medicine - University Hospital - Ann Arbor, Michigan

Saint Joseph Sanitarium
(Supervision of Sisters of Mercy)
P. O. BOX 236 — DUBUQUE, IOWA
or phone 3-8291 for information
Mild Mental and Nervous Cases
also
Convalescent and Rest Patients
Shock Therapy, Hydrotherapy, Physiotherapy, Occupational Therapy.
Competent Staff.

BALDPATE, Inc.

Geo. Fleetwood 2-2131 **Georgetown, Mass.**

Located in the hills of Essex County, 30 miles north of Boston

For the treatment of

psychoneuroses, personality disorders, psychoses, alcoholism and drug addiction.

Definitive psychotherapy, somatic therapies, pharmacotherapy, milieu-therapy under direction of trained occupational and recreational therapists.

HARRY C. SOLOMON, M.D.
Consulting Psychiatrist

GEORGE M. SCHLOMER, M.D.
Medical Director

FAIRVIEW Sanitarium

2828 S. PRAIRIE AVE.
CHICAGO
Phone VIctory 2-1650
J. DENNIS FREUND, M.D.
Medical Director

DEVOTED TO THE ACTIVE TREATMENT OF

MENTAL and NERVOUS DISORDERS

Specializing in Psycho-Therapy, and Physiological therapies including:

- Insulin Shock
- Electro-Shock
- Electro-Narcosis
- Out Patient Shock Therapy Available

ALCOHOLISM Treated by Comprehensive Medical-Psychiatric Methods.

BEVERLY HILLS CLINIC and SANITARIUM

210 N. Westmoreland Avenue **WHitehall 3-4651**

Dallas 11, Texas

A private clinic and hospital for nervous and mental diseases both for in-patients and out-patients—stressing a homelike environment with separate building units and special cottages—air-conditioned.

A complete neuropsychiatric diagnostic and treatment center including a department of psychology—encephalography—clinical laboratory and X-ray—psychotherapy—electroshock and insulin coma therapy, as well as psycho-surgery.

ARTHUR J. SCHWENKENBERG, M.D.
JOSEPH L. KNAPP, M.D.
JACKSON H. SPEEGLE, M.D.
Neurology

FRED H. JORDAN, M.D.
HENRY P. HARE, JR., M.D.
LUDLOW M. PENCE, M.D.
Psychiatry

A NEUROPSYCHIATRIC FOUNDATION
THE

ROGERS MEMORIAL HOSPITAL

The Hospital is situated on the Nashotah Lakes, 30 miles west of Milwaukee, providing the ideal, restful country environment and the facilities for the modern methods of therapy of psychoneuroses, psychosomatic disorders, alcoholism, and the other neurologic and psychiatric problems. Occupational therapy and recreational activities directed by trained personnel.

OCONOMOWOC, WISCONSIN

PHONE LOGAN 7-5535

EUGENE FRANK, M.D.
WILLIAM C. JANSSEN
LOREN J. DRISCOLL, M.D.

OWEN OTTO, M.D.
Medical Director

LEROY A. WAUCK, PH.D.
Clinical Psychologist
JOSEF A. KINDWALL, M.D.
Consultant

GLENSIDE HOSPITAL

FOUNDED 1909

Located in an attractive rural setting in the heart of Boston for the care of nervous, mental and geriatric disorders, alcoholism and drug addiction.

The new Ordway Therapy Unit includes the most modern electrotherapy equipment. Anesthesia by the Hand-Auden Associates and trained personnel available to courtesy staff.

DORIS M. HORWOOD, *Superintendent*

RUTH M. CROSSFIELD, M.D., *Medical Director*

6 PARLEY VALE, JAMAICA PLAIN, MASS.

JAMAICA 4-0044 RATES MINIMAL

---

50 BEDS **HILLCREST HOSPITAL** **EST. 1905**

(formerly The Retreat, Inc.)
DES MOINES 12, IOWA

For the diagnosis and treatment of Nervous and Mental Disorders in a homelike environment.

Occupational Therapy, Physiotherapy and Shock Therapy
Open Psychiatric Staff

HERBERT C. MERILLAT, M.D., *Medical Director* HERBERT W. VETTER, *Administrator*

PINEWOOD **Dr. Joseph Epstein** **Dr. Louis Wender** **Physicians in Charge**

DR. WALTER A. THOMPSON, F.A.P.A., Clinical Director

Westchester County **Katonah, N. Y.** **Tel.: Central 2-3155**

A competent sixty bed psychiatric hospital offering an approved program for training residents in neuropsychiatry. Psychoanalytically oriented. Patients receive individual treatment sessions and also group therapy. Electroshock therapy and its modifications available. Pharmacological therapies. Consulting staff of specialists. Monthly clinical conferences open to the profession.

N. Y. City Offices—By Appointment

DR. EPSTEIN—975 Park Ave.—Tues., Thurs., Sat. RH 4-3700
DR. WENDER—59 East 79th St.—Mon., Wed., Fri. BU 8-0580

FAIR OAKS

INCORPORATED

SUMMIT, NEW JERSEY

A fully approved Hospital for intensive treatment and management of problems in Neuropsychiatry.

OSCAR ROZETT, M.D.
Medical Director

THOMAS P. PROUT, JR.
Administrator

SANITARIA DIRECTORY

The institutions listed below are among the finest private sanitaria in the United States. They offer private, individual specialized care to the patient.

BALDPATE, INC.
Georgetown, Massachusetts

BEVERLY HILLS CLINIC AND SANITARIUM
Dallas 11, Texas

ELMLAWN (The Wilgus Sanitarium)
Rockford, Illinois

FAIR OAKS
Summit, New Jersey

FAIRVIEW SANITARIUM
Chicago, Illinois

FOREST SANITARIUM
Des Plaines, Illinois

GLENSIDE
Boston 30, Massachusetts

HALL-BROOKE
Greens Farms, Conn.

HILLCREST HOSPITAL
(formerly The Retreat, Inc.)
Des Moines 12, Iowa

PINEWOOD
Katonah, New York

RING SANATORIUM
Arlington, Massachusetts

ROGERS MEMORIAL HOSPITAL
Oconomowoc, Wisconsin

ST. CLAIR HOSPITAL
Detroit 14, Michigan

ST. JOSEPH SANITARIUM
Dubuque, Iowa